

FIG. 1A

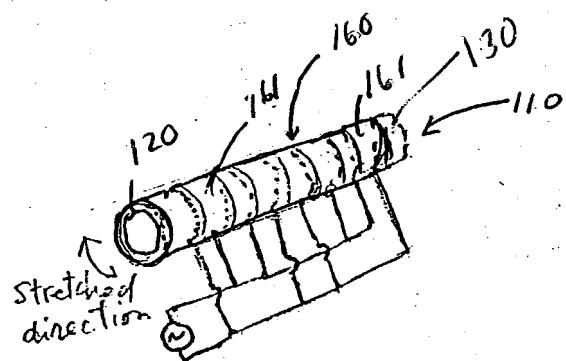


FIG. 1B

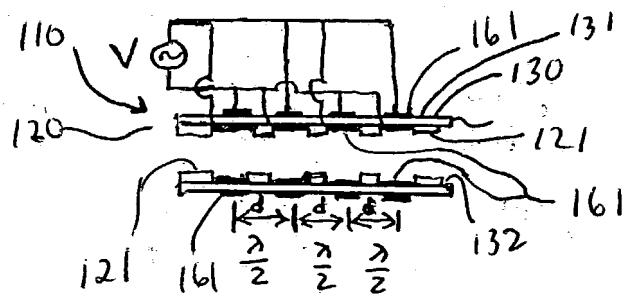


FIG. 1C

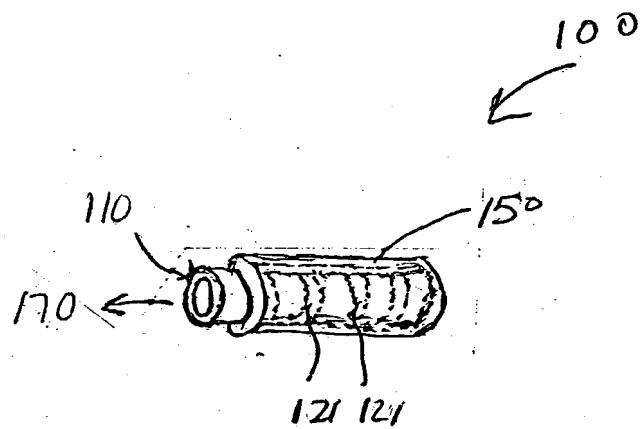


FIG. 1D

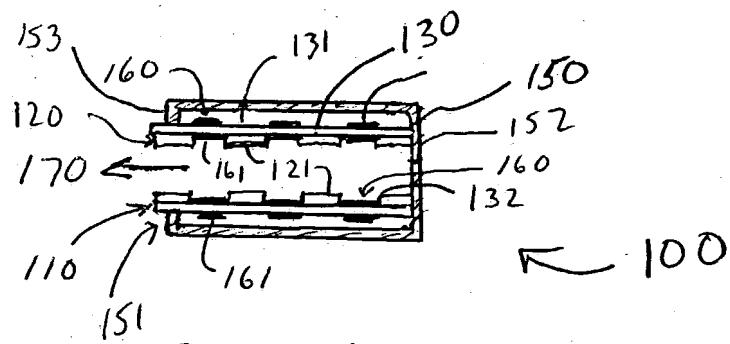


FIG. 1E

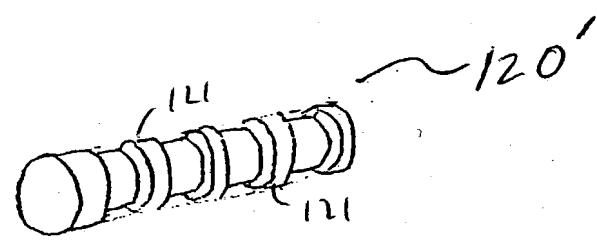


FIG. 2A

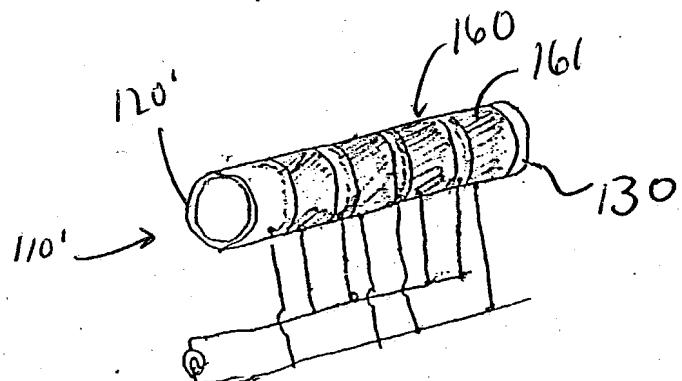


FIG. 2B

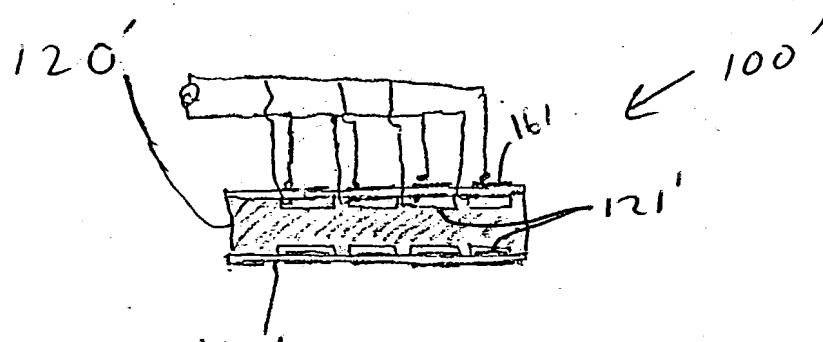


FIG. 2C

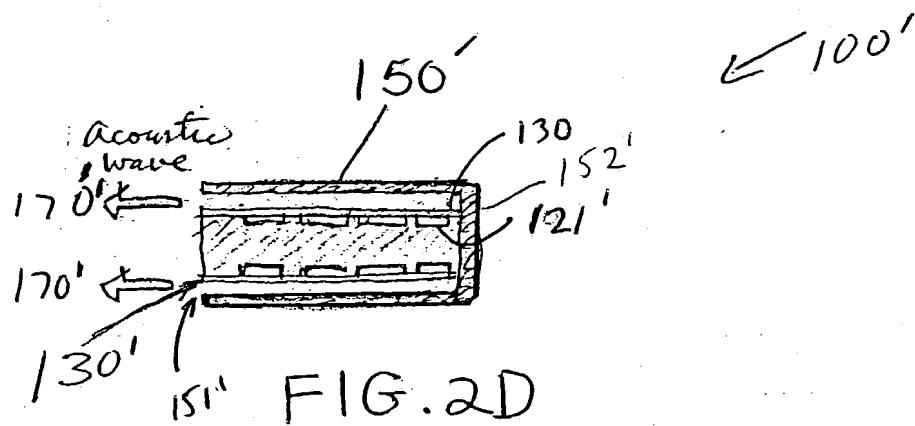


FIG. 2D

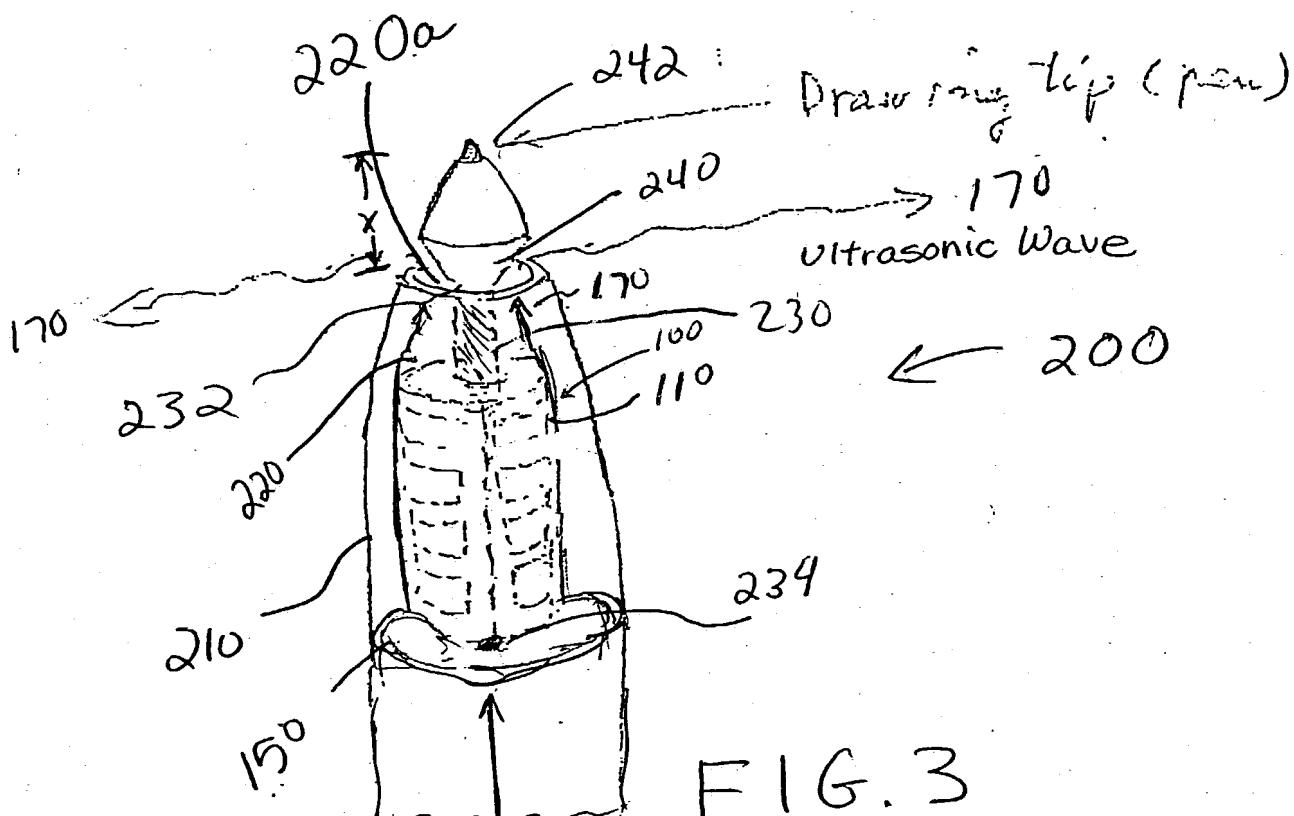


FIG. 3

Another shape of ultrasonic wave exits

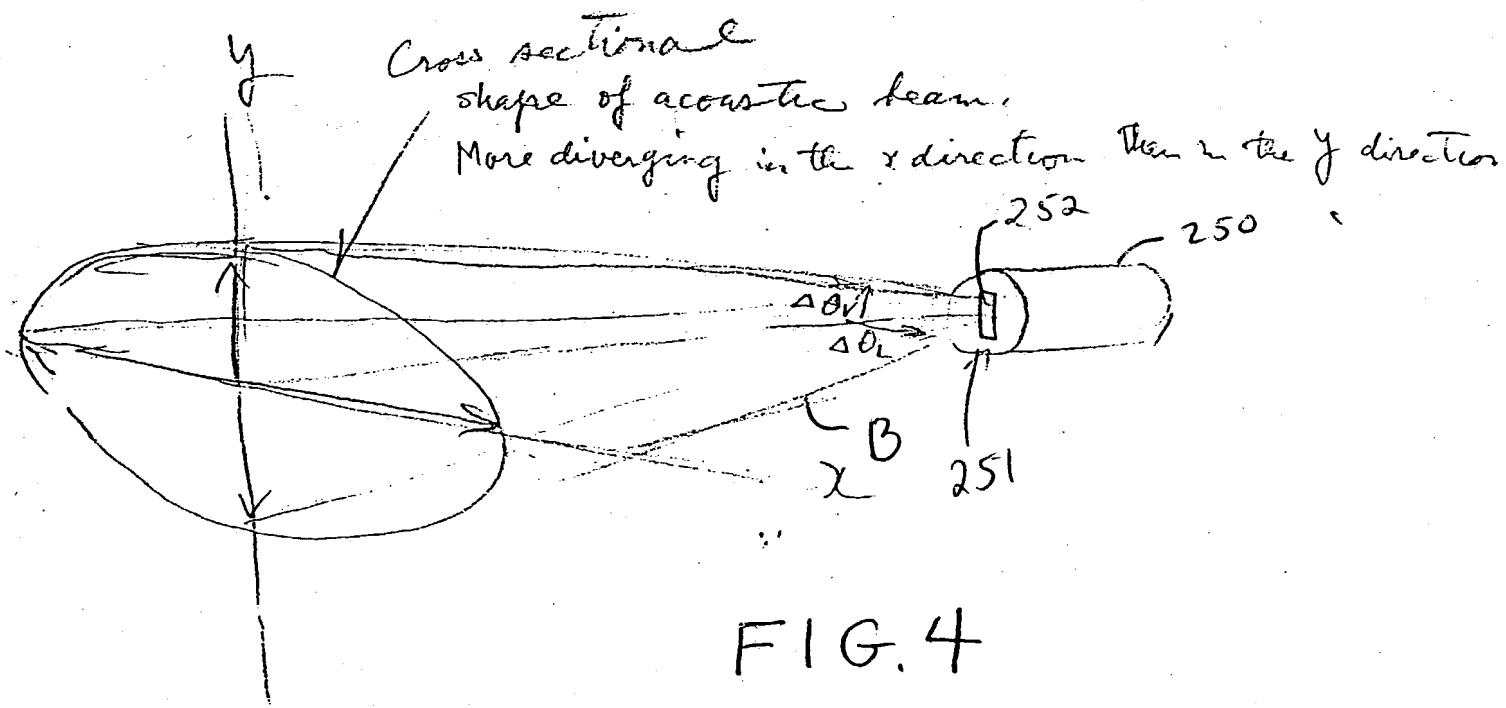


FIG. 4

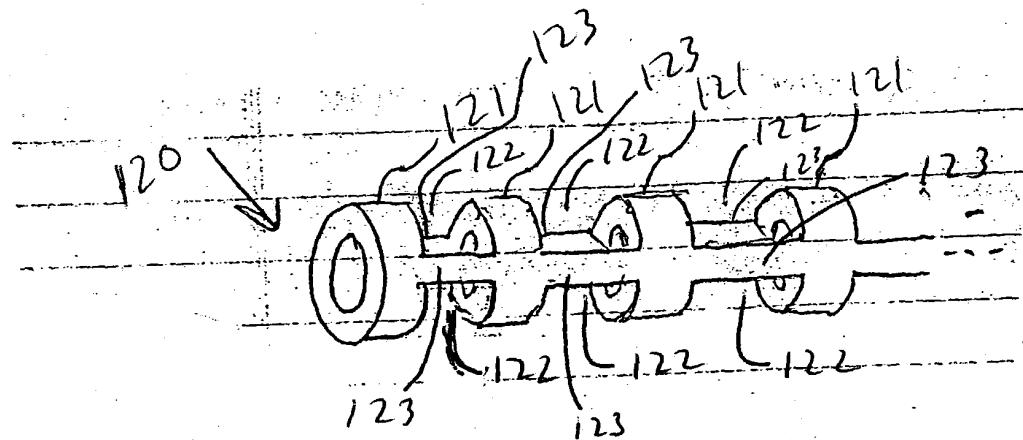


FIG. 5A

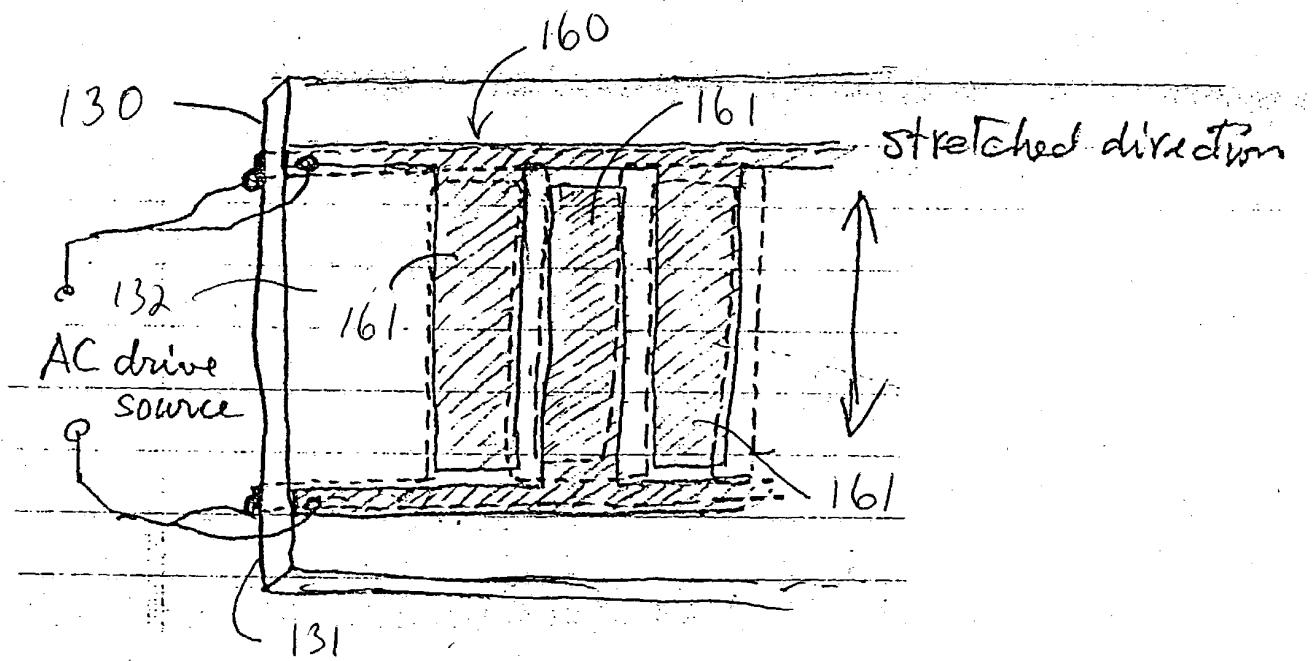


FIG. 5B

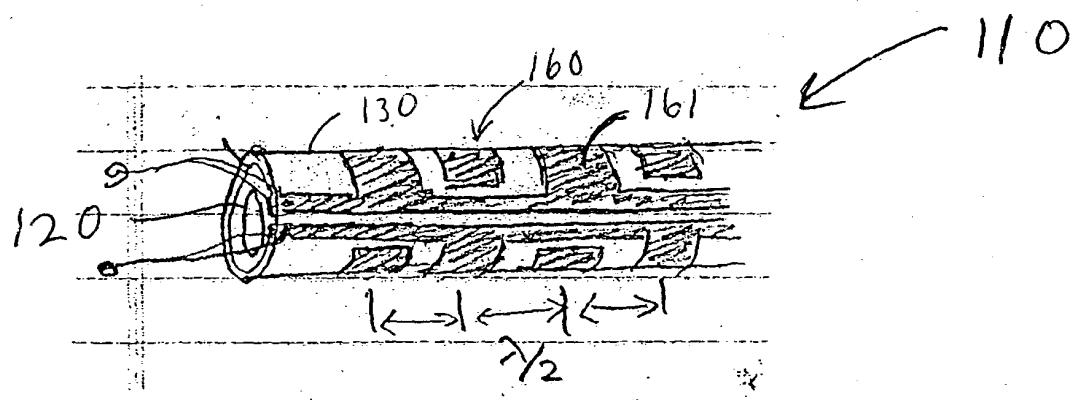


FIG. 5C

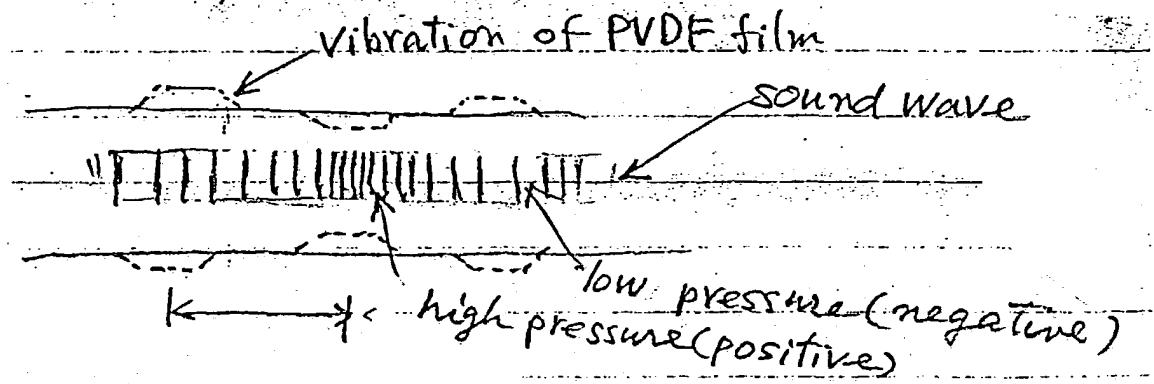


FIG. 6

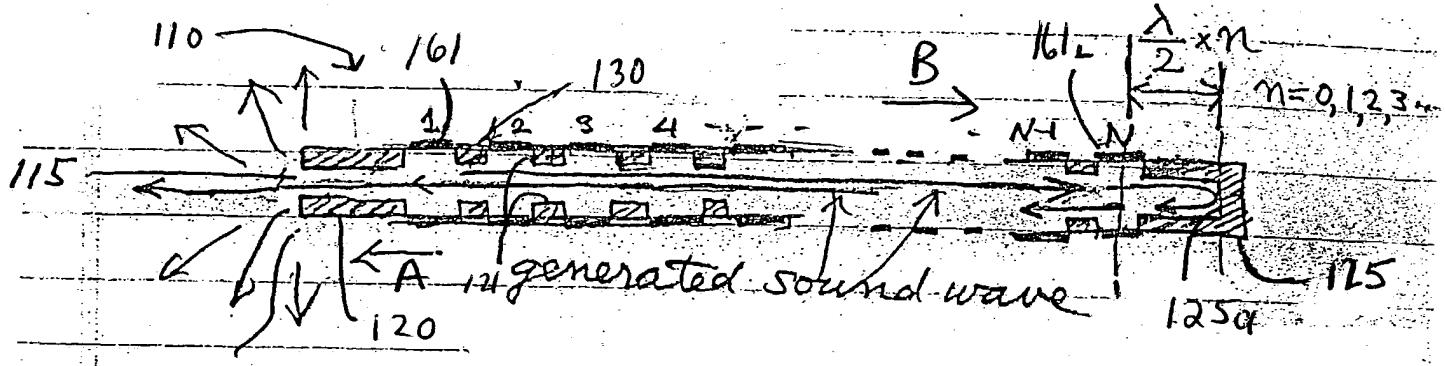


FIG. 7 [cross-sectional View]

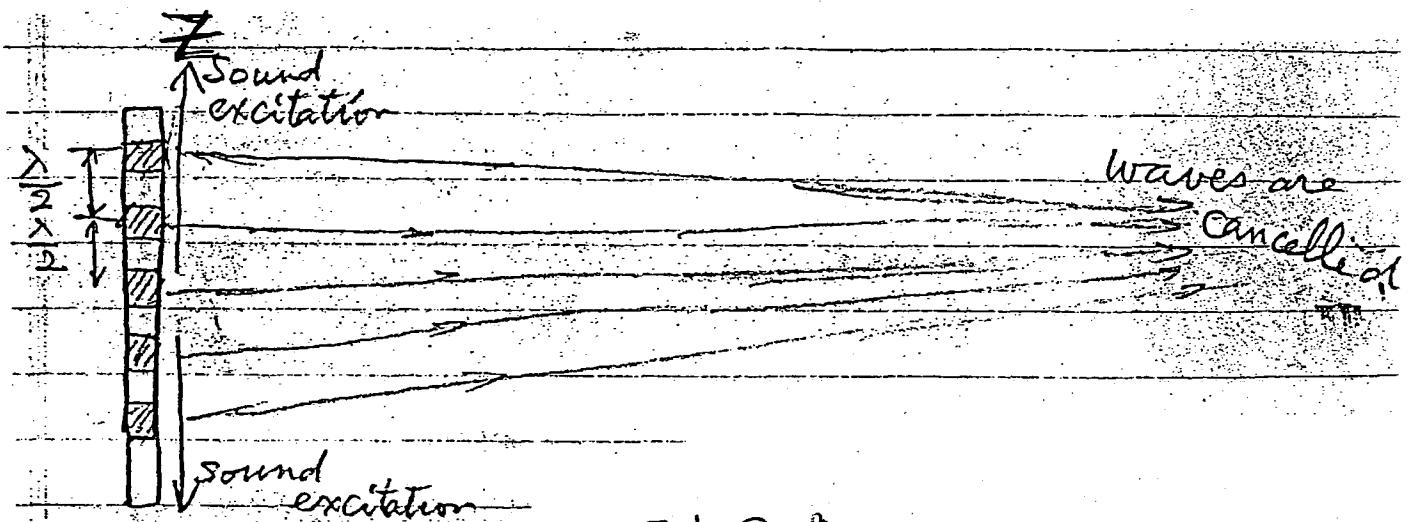


FIG. 8

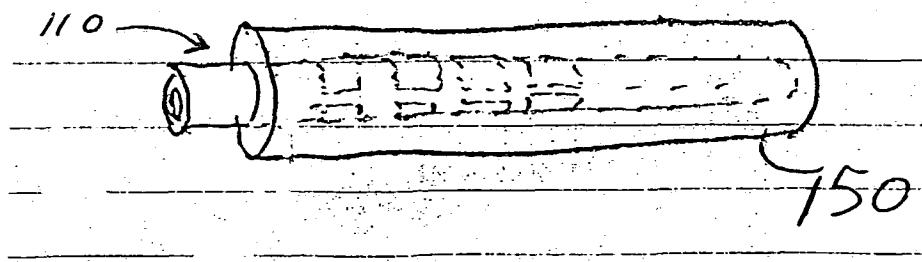


FIG. 9

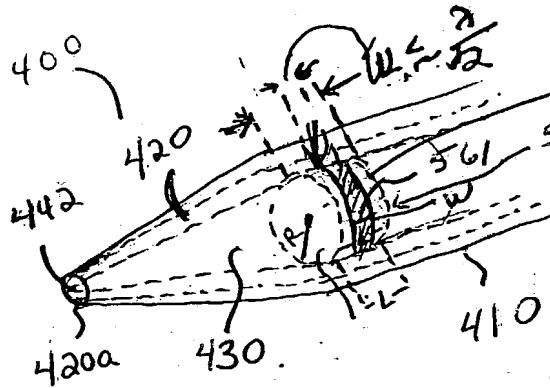


FIG. 10A

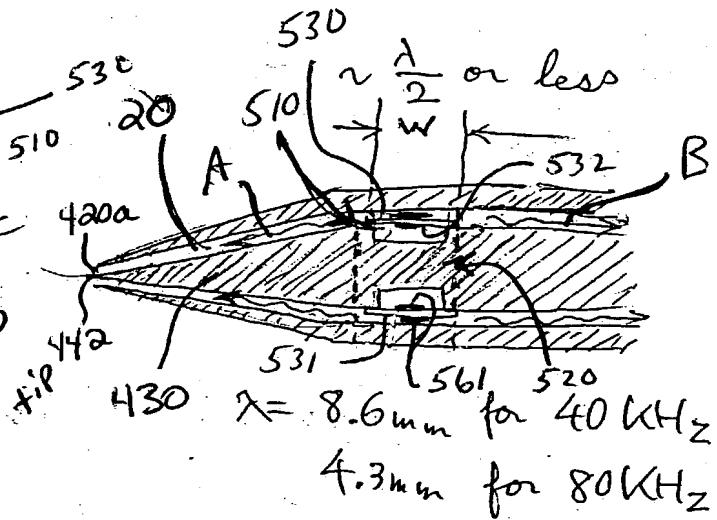


FIG. 10B

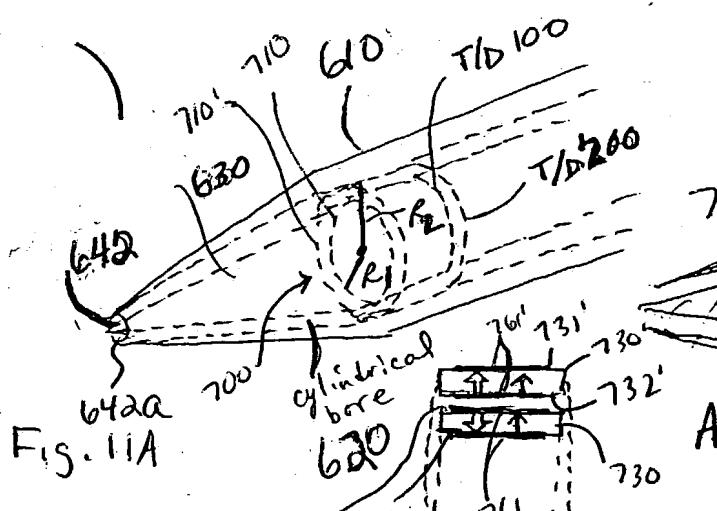


FIG. 11A

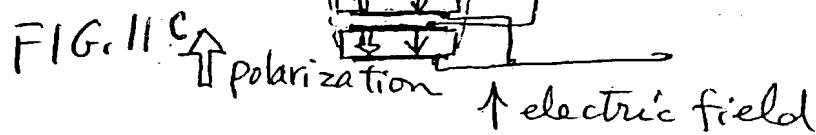


FIG. 11C

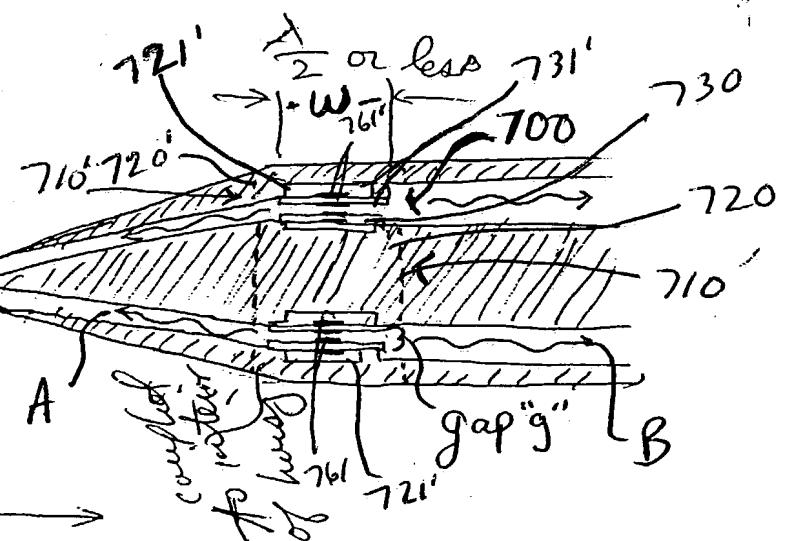
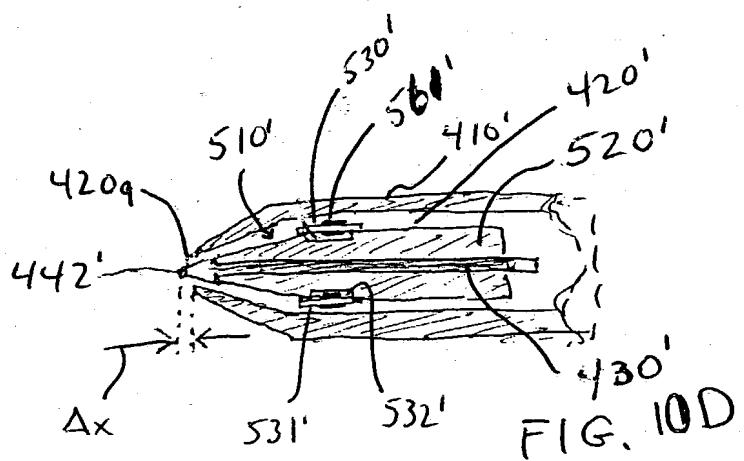
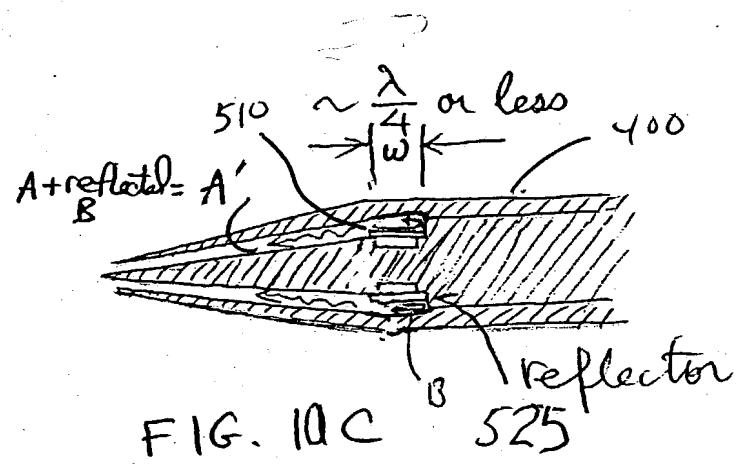


FIG. 11B



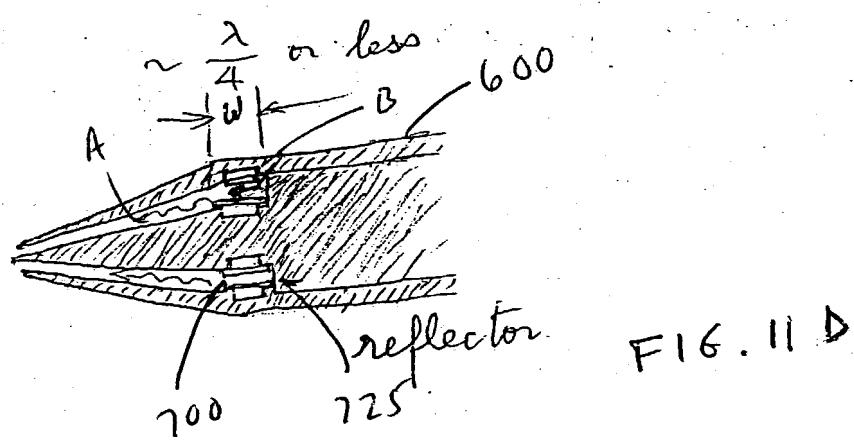


FIG. 11 ▷

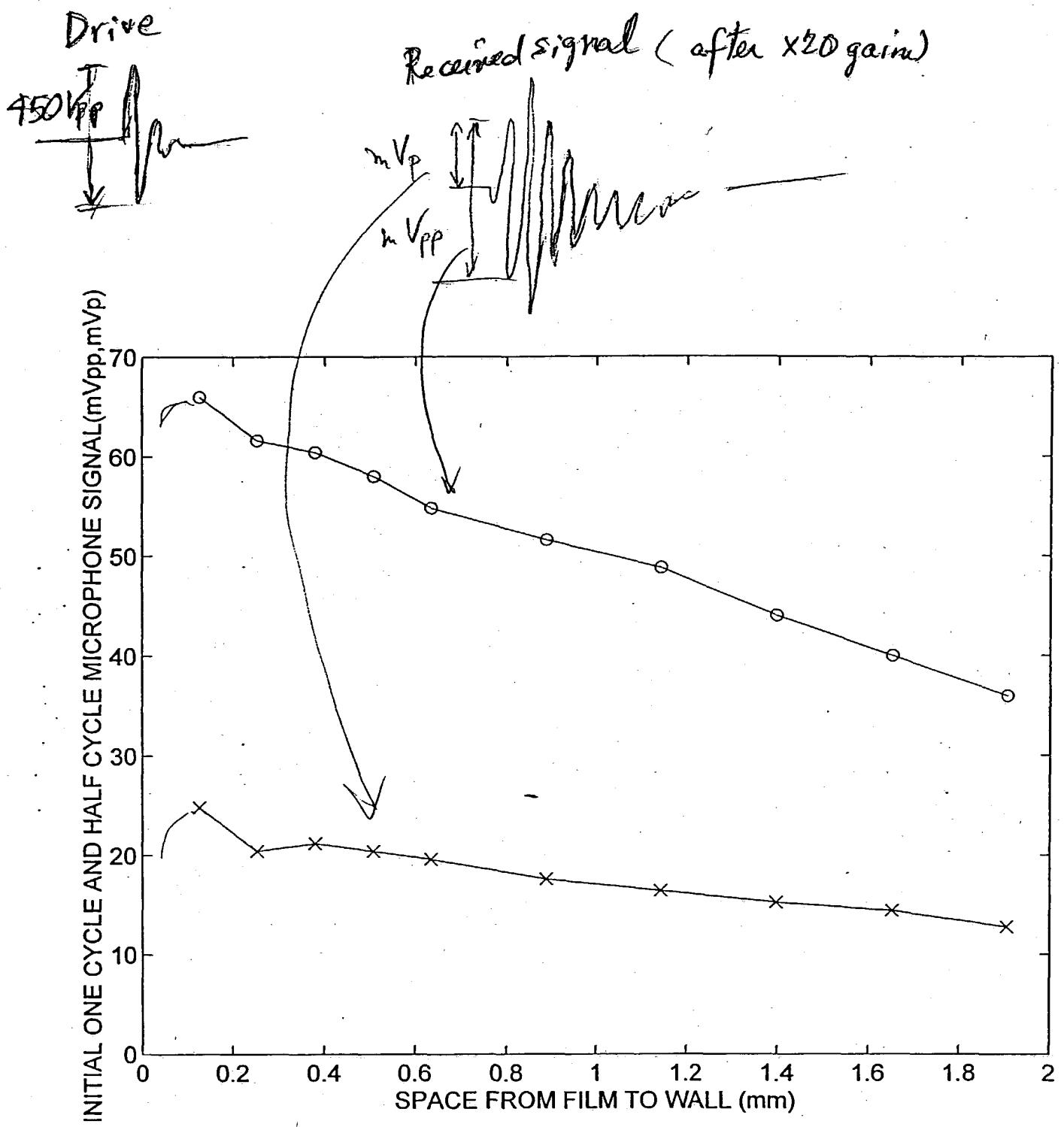


FIG. 12

32Vpp 20 CYCLE BURST, SIGNAL mVpp FROM X20 AMPLIFIER, B&K MICROPHONE(3.4mV/Pa), 12.5cm

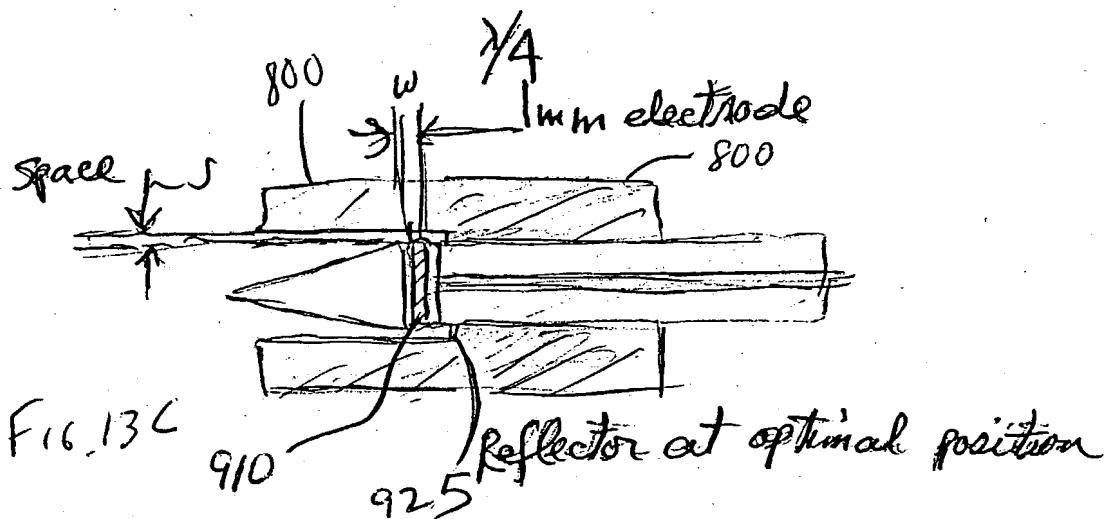


Fig. 13 C

Space between film to wall  
0.25 mm

0.5

0.89

1.40  
mm

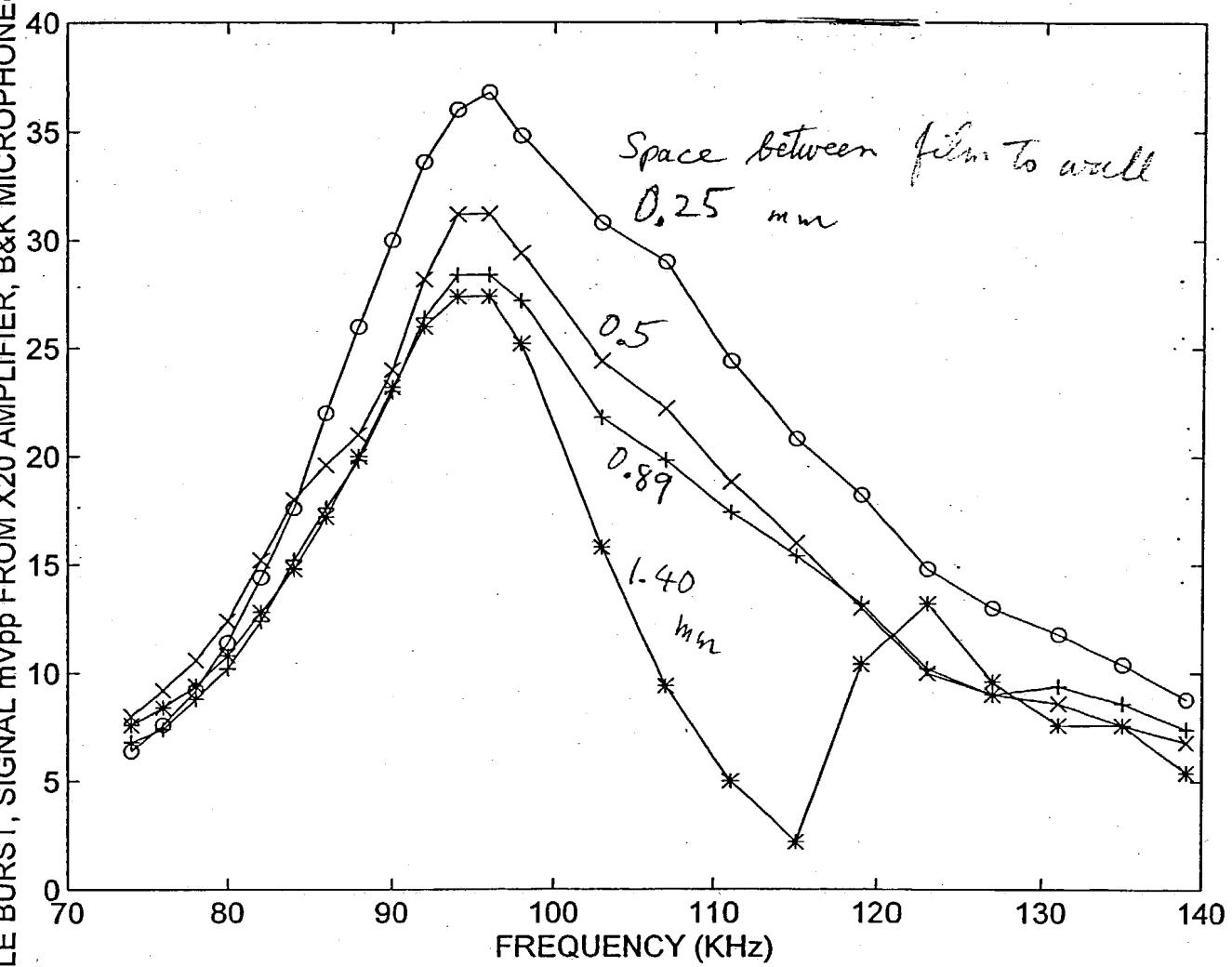


Fig. 13 A

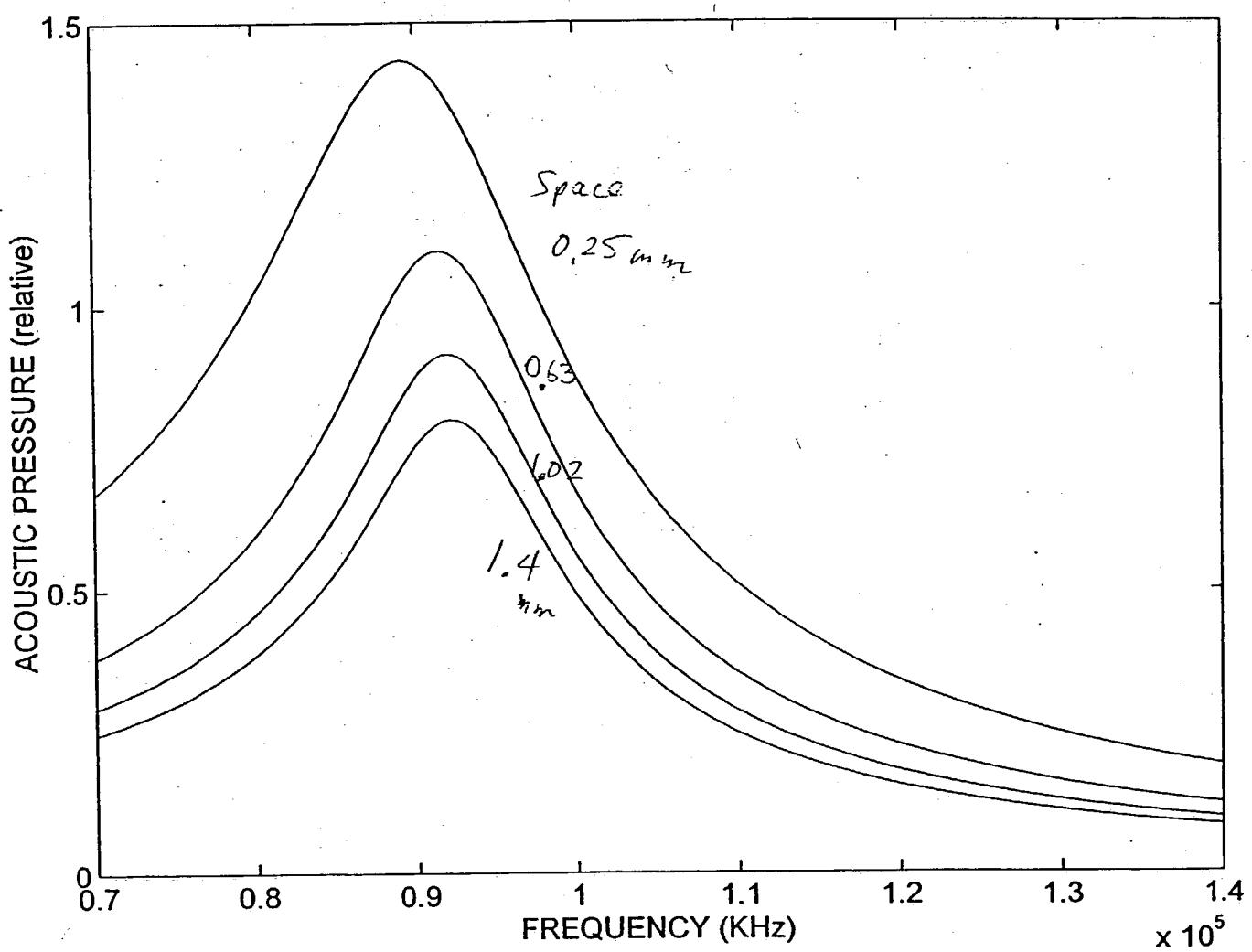


FIG. 13B

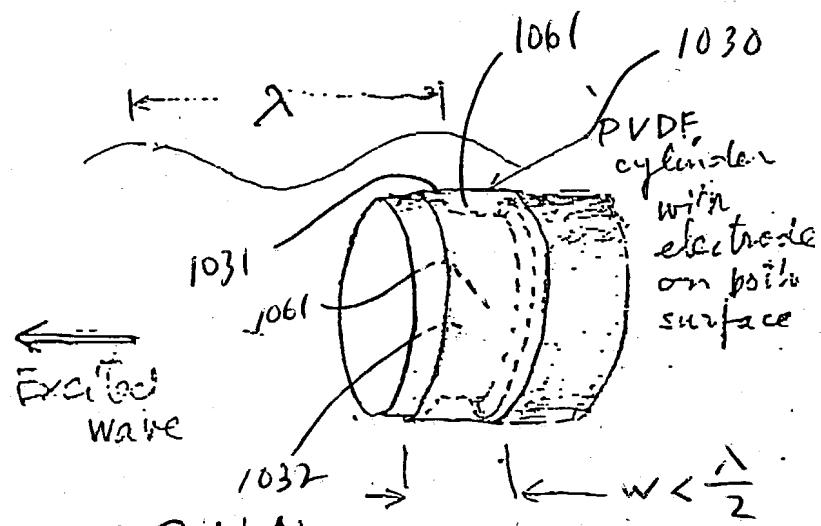


FIG. 14A  
Efficient excitation.

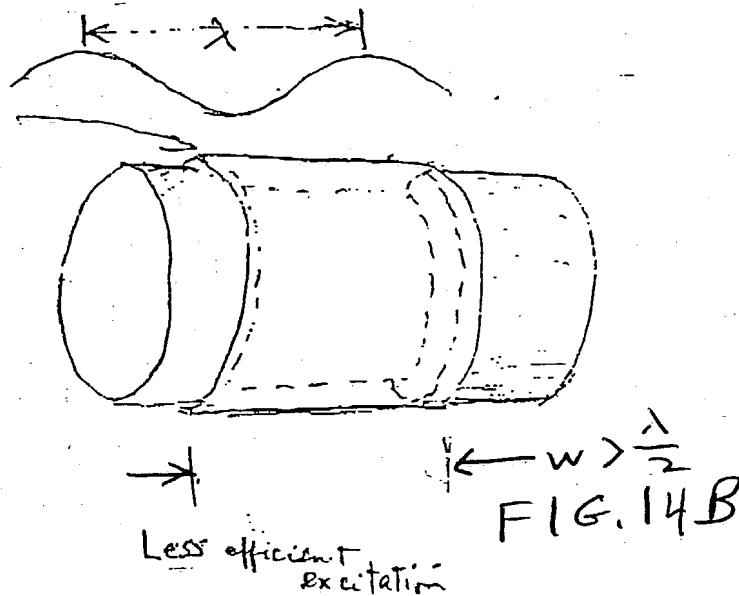
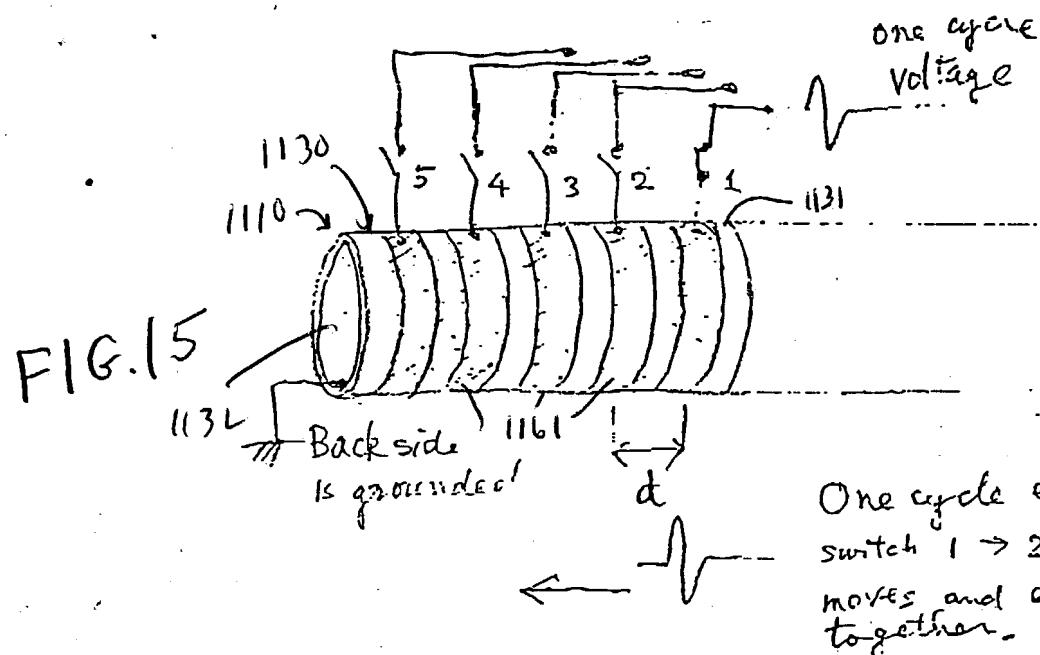


FIG. 14B  
Less efficient excitation.



One cycle excitation is moved by switch  $1 \rightarrow 2 \rightarrow \dots$ . Excited wave moves and excitation voltage also move together.

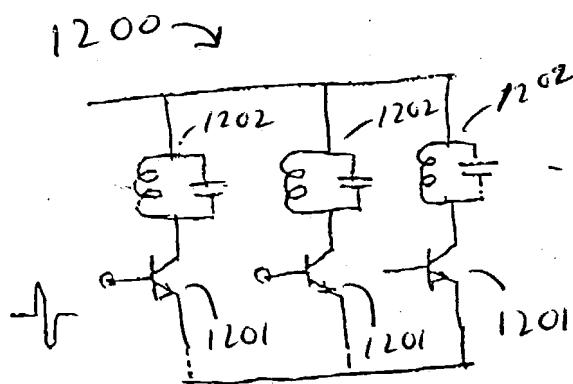


FIG. 16

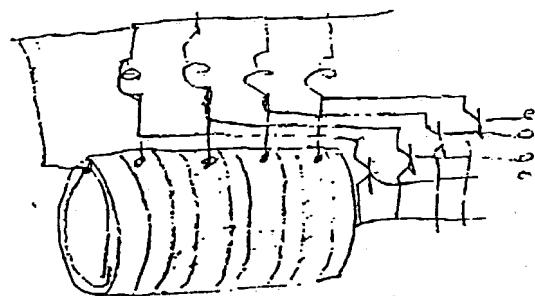
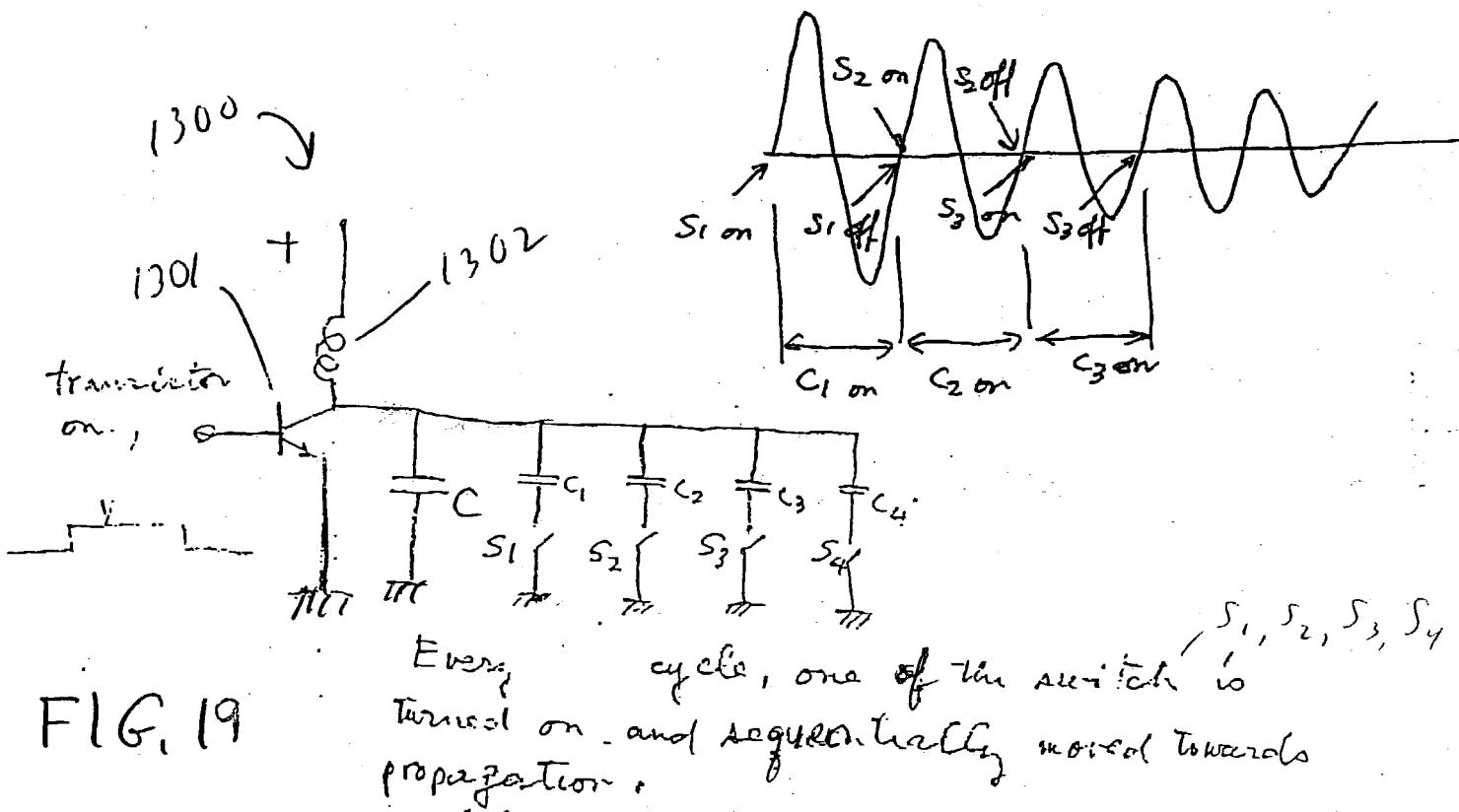
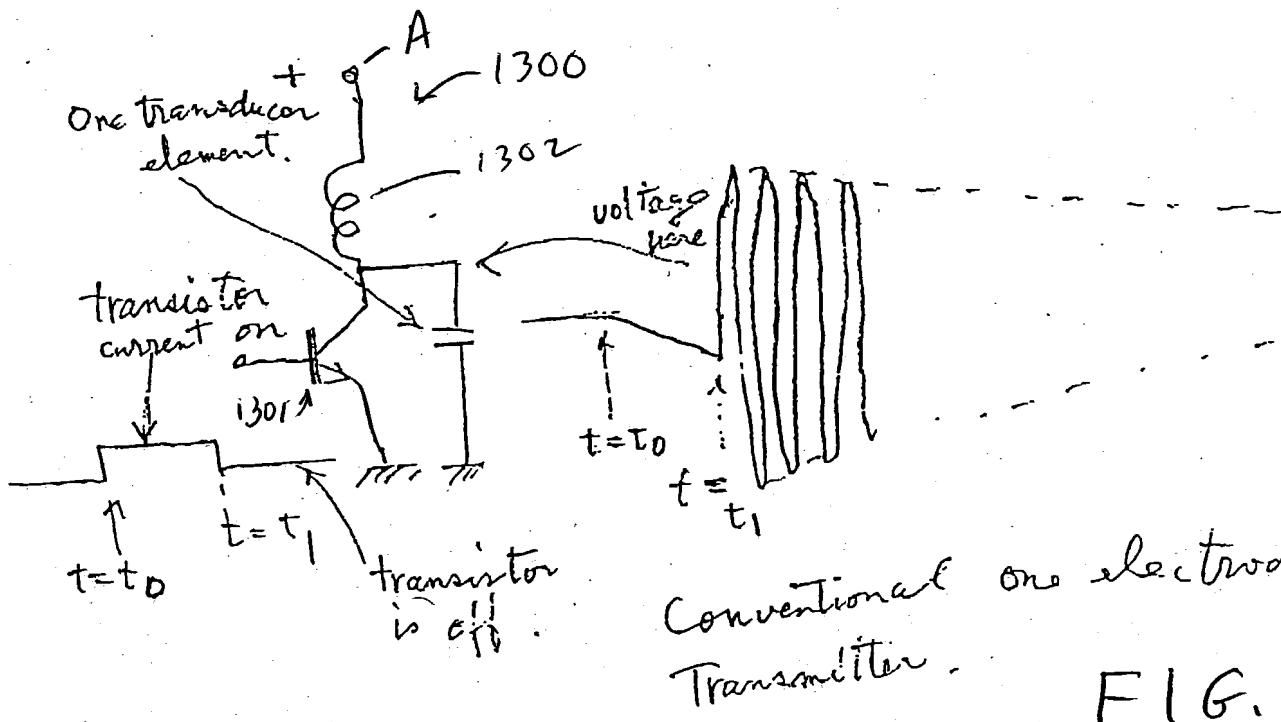


FIG. 17



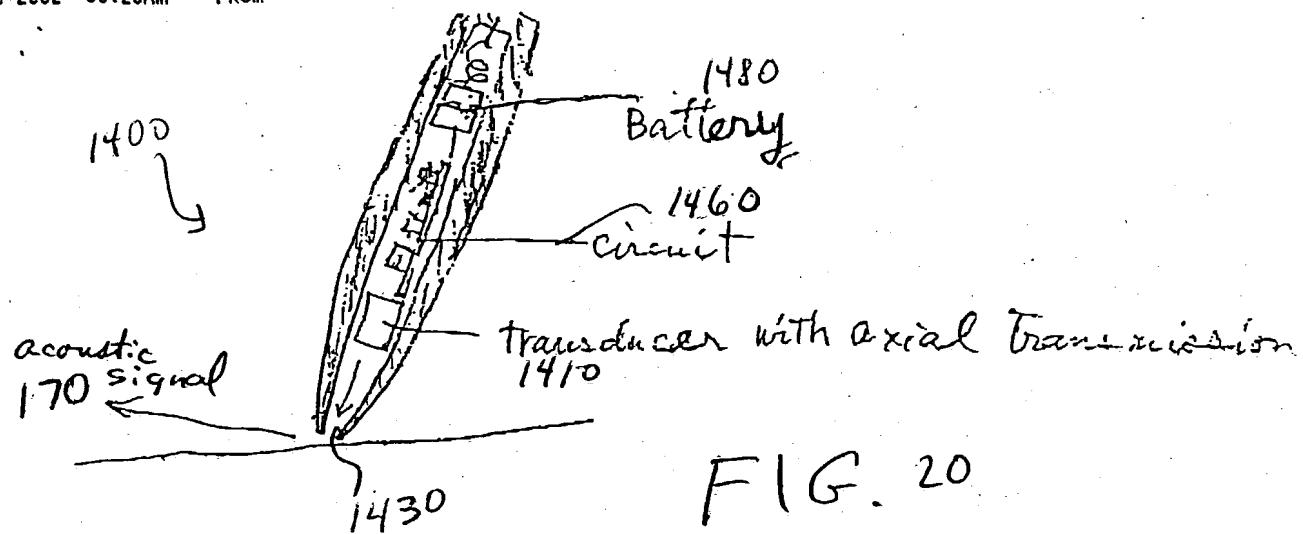


FIG. 20

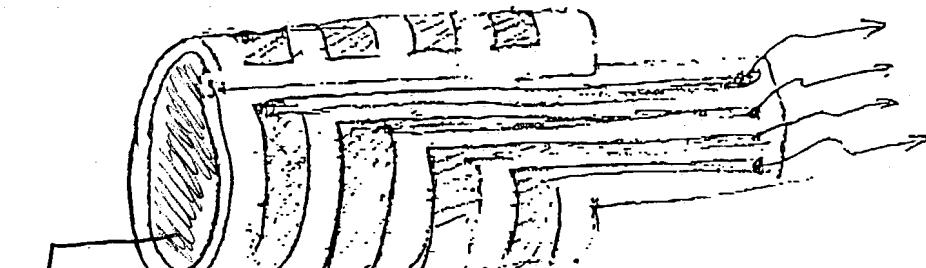
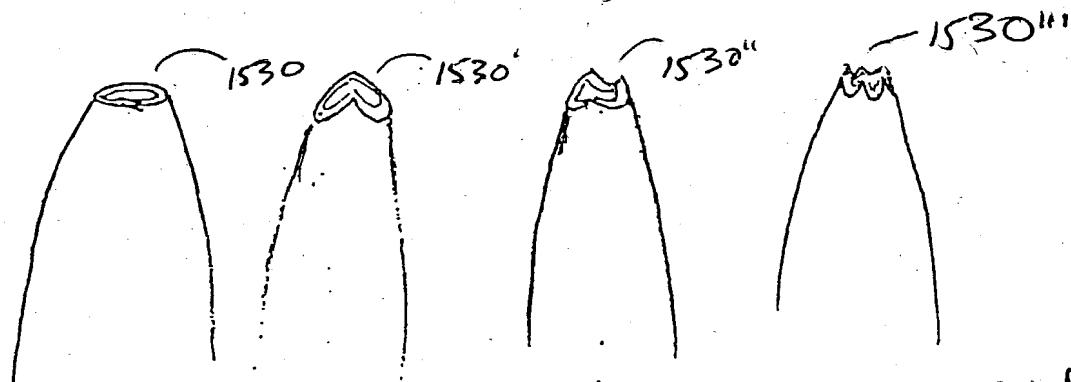


FIG. 22

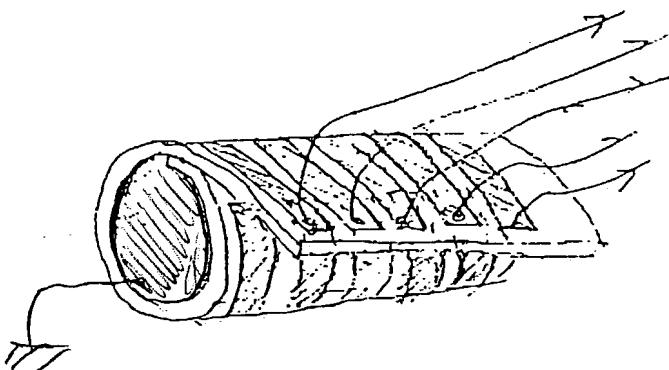


FIG. 23

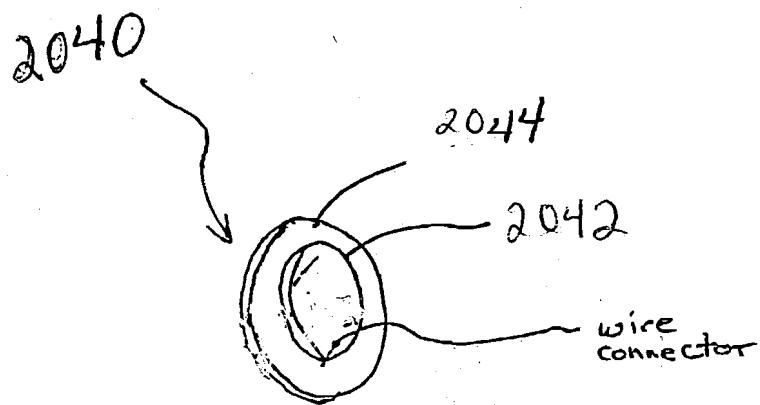
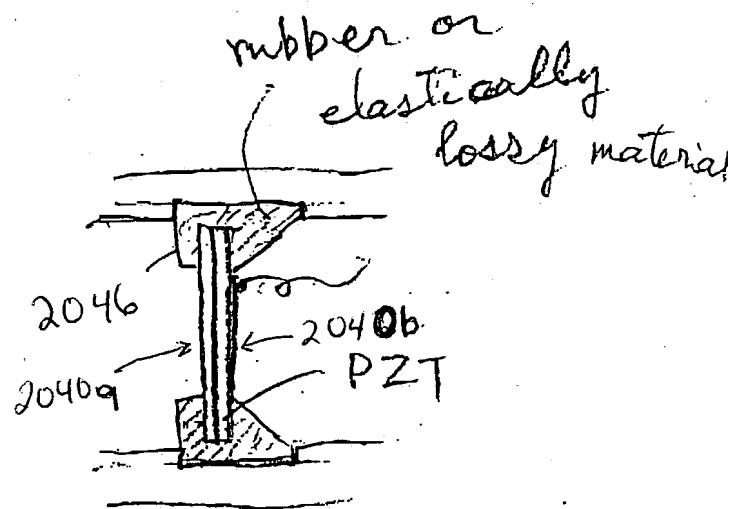


Fig. 24A



F16.24B

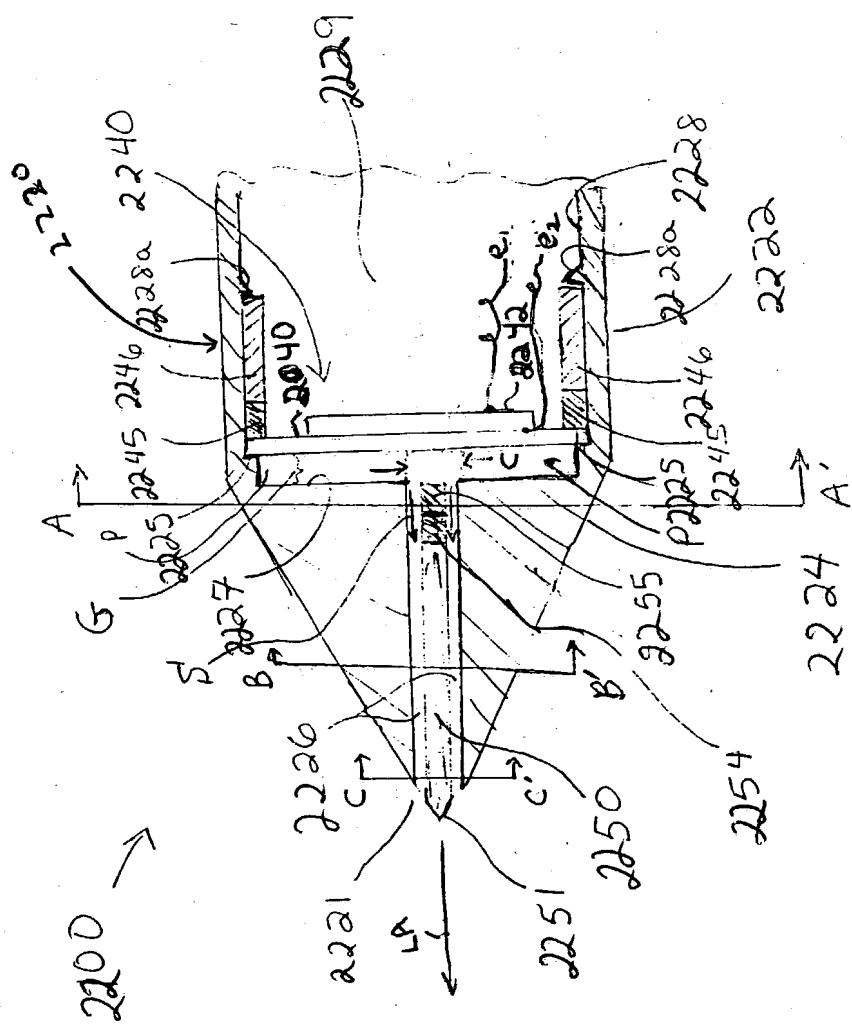


FIG. 25A.

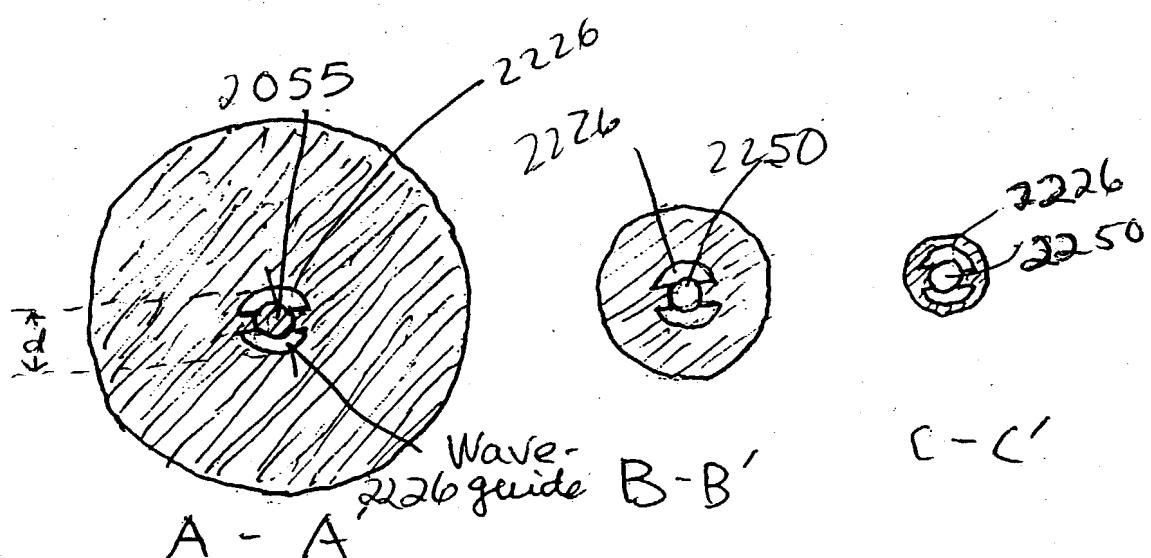


FIG. 25B

FIG. 25C

FIG. 25D

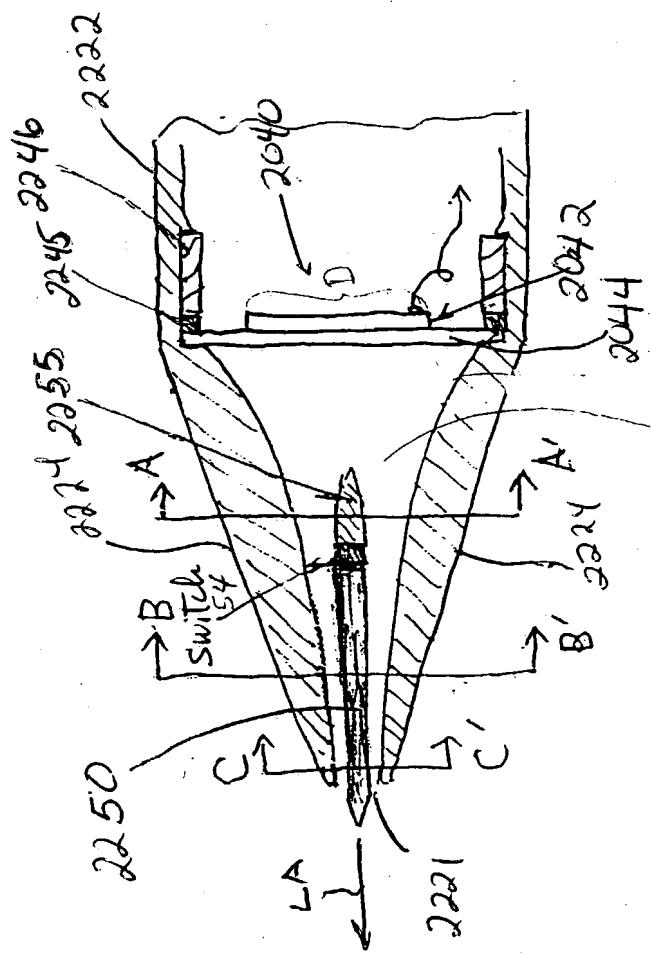


FIG. 26A

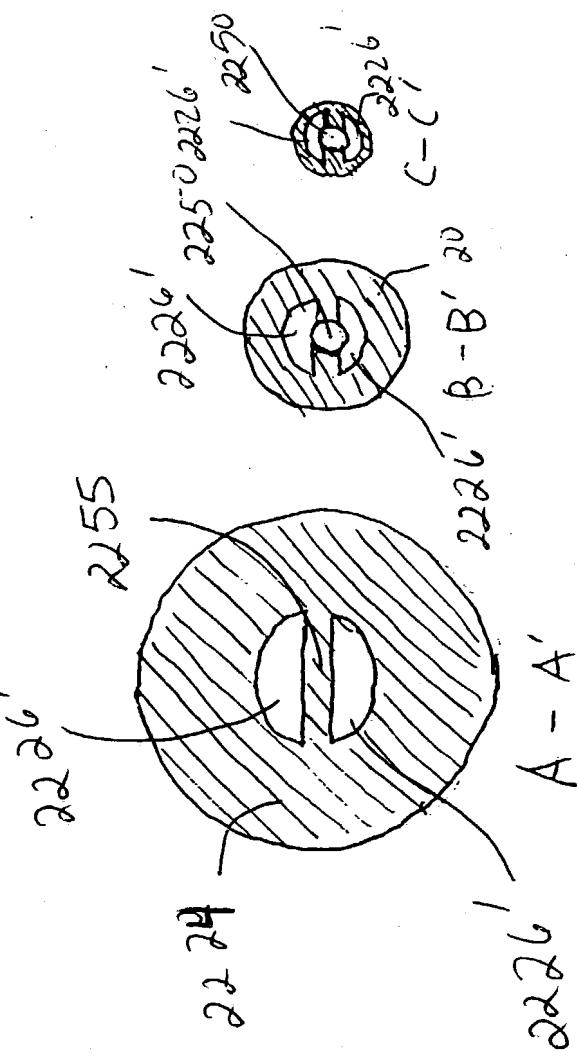


Fig. 26 B



FIG. 26C

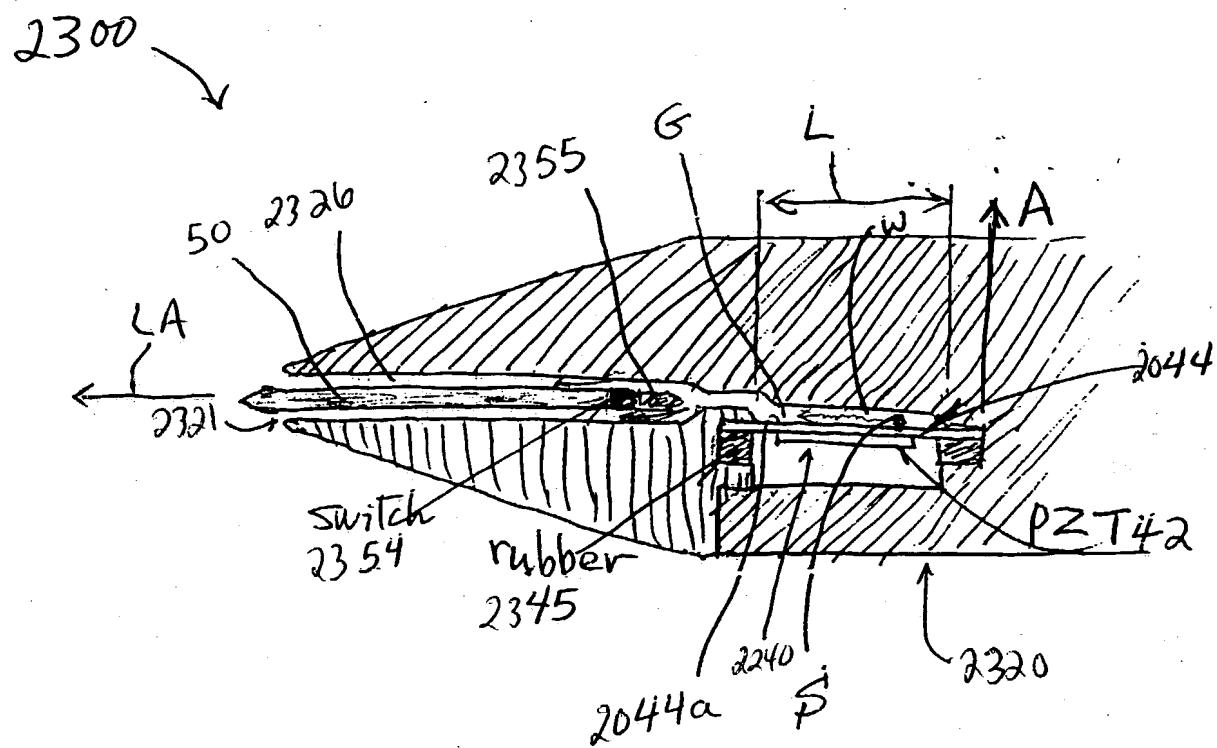
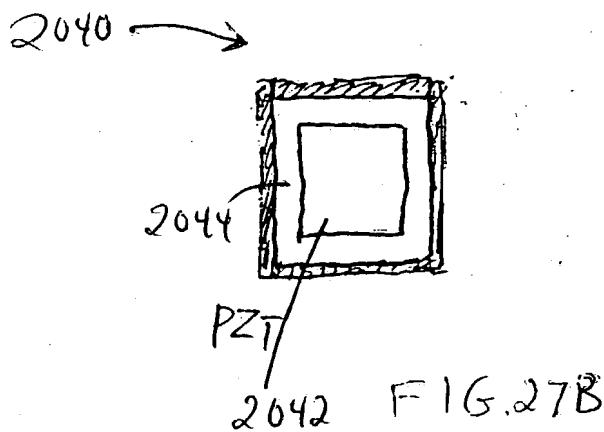


FIG. 27A



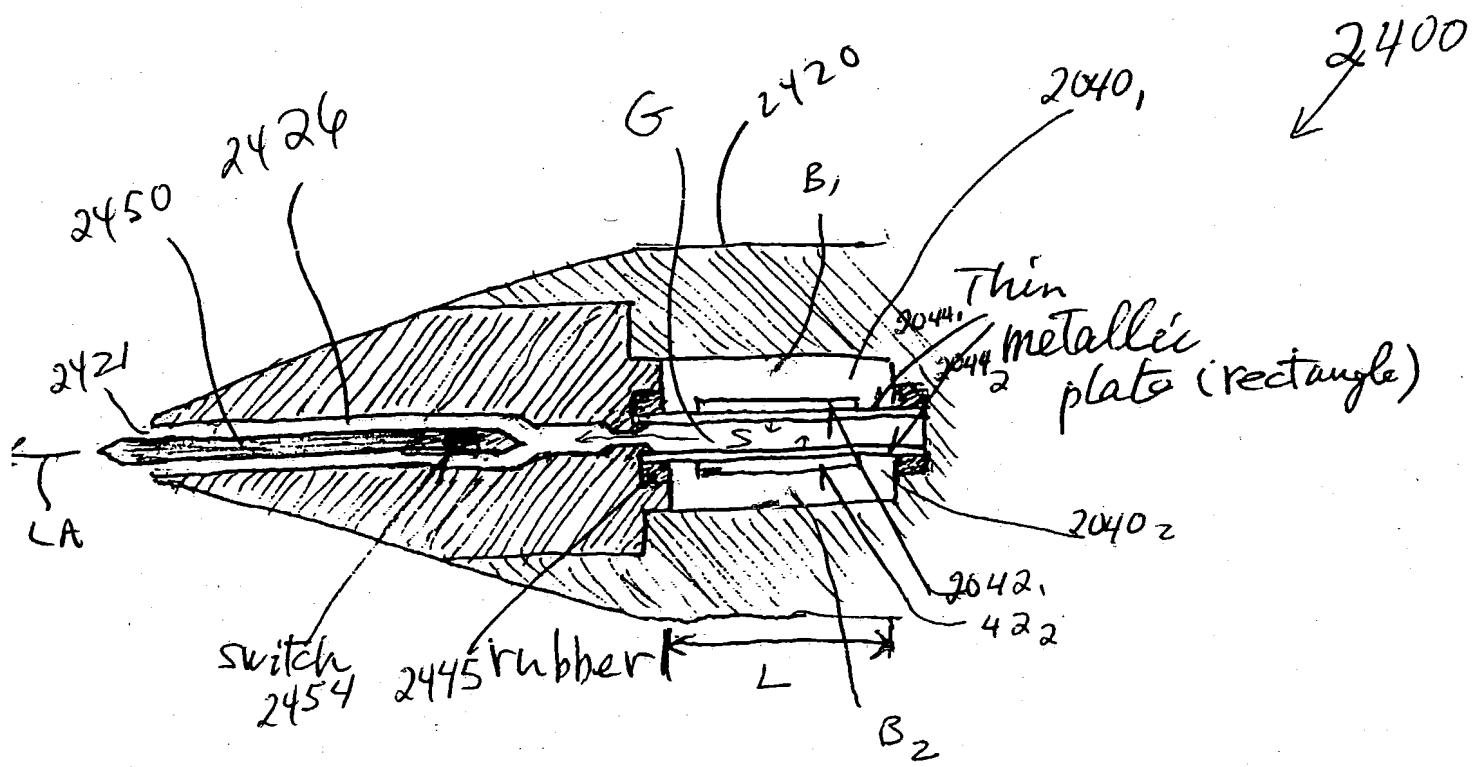
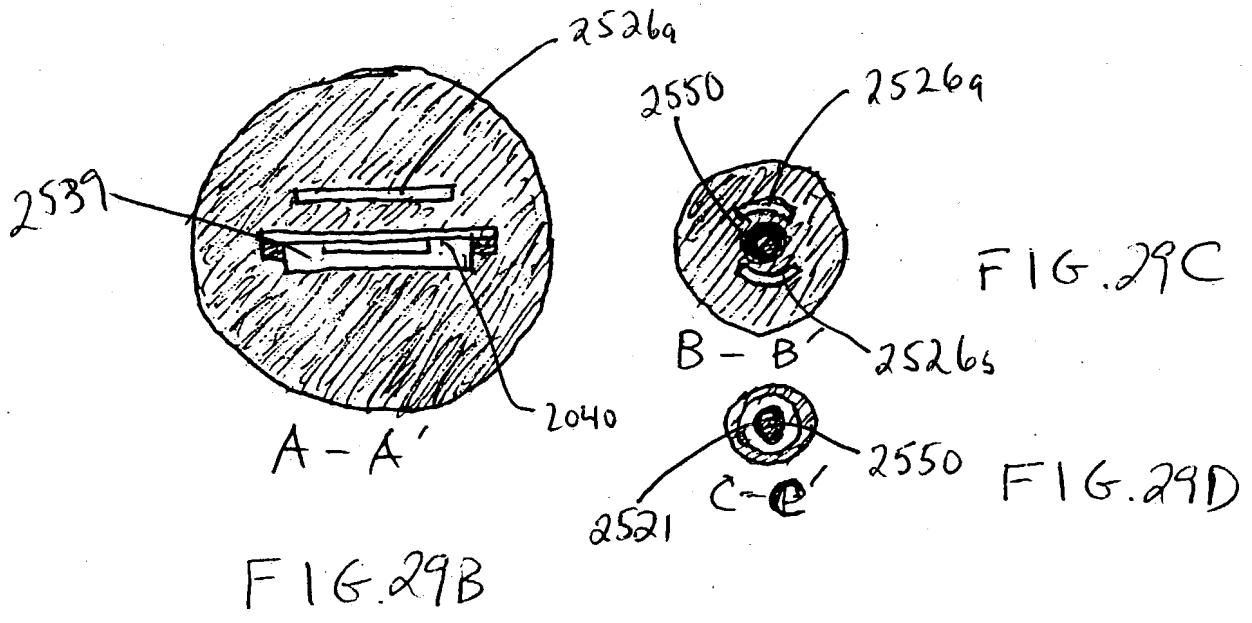
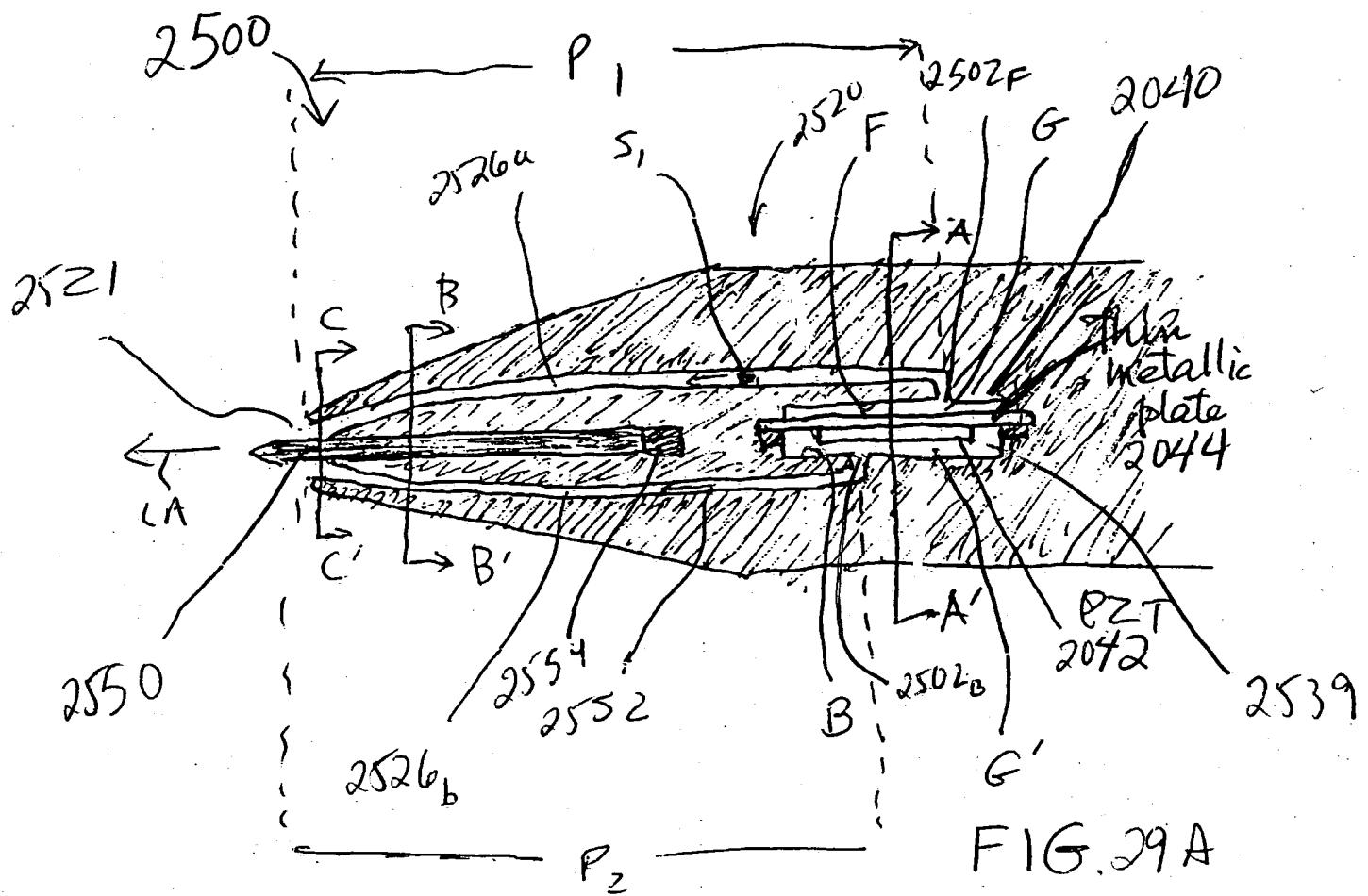
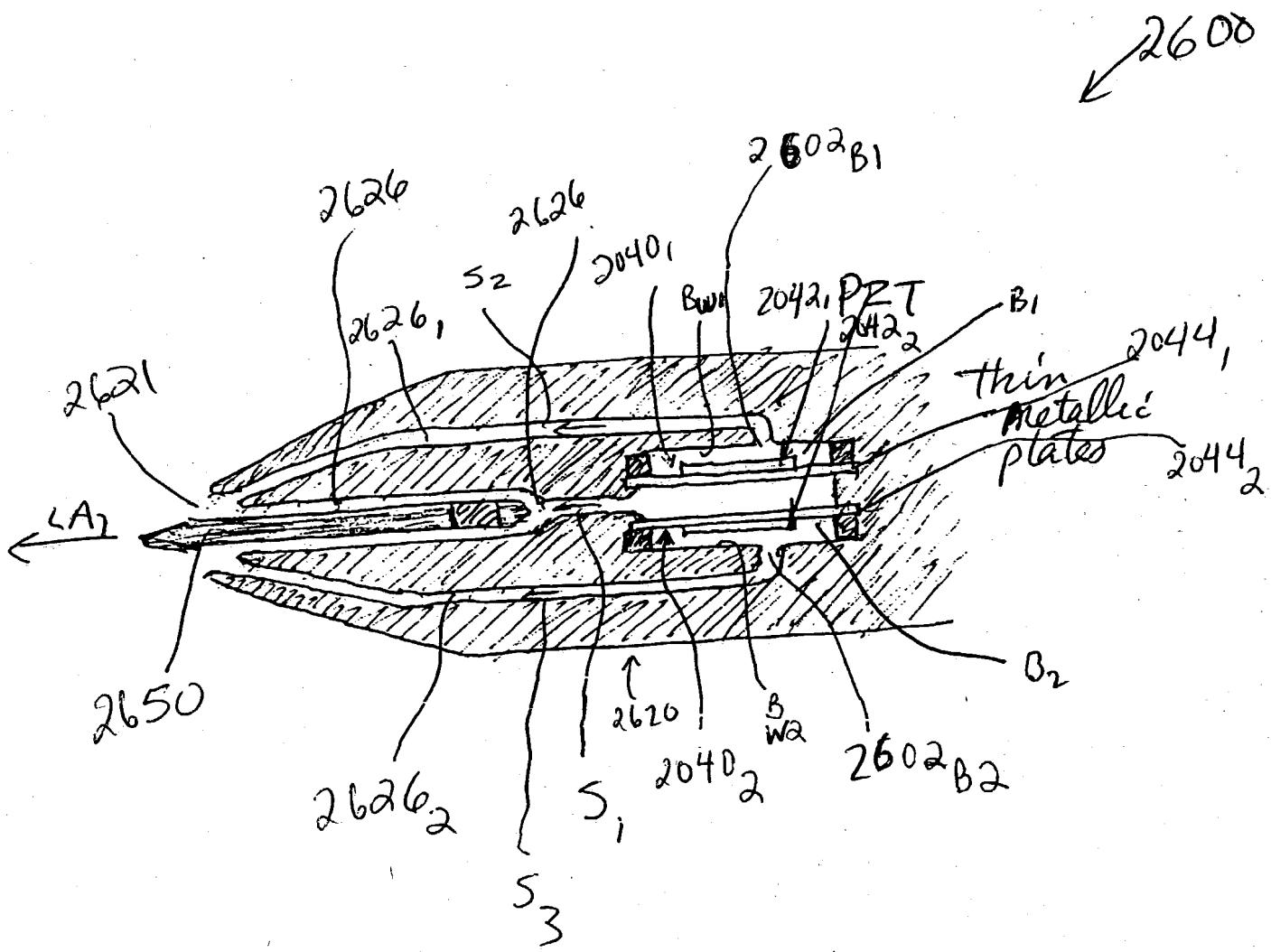
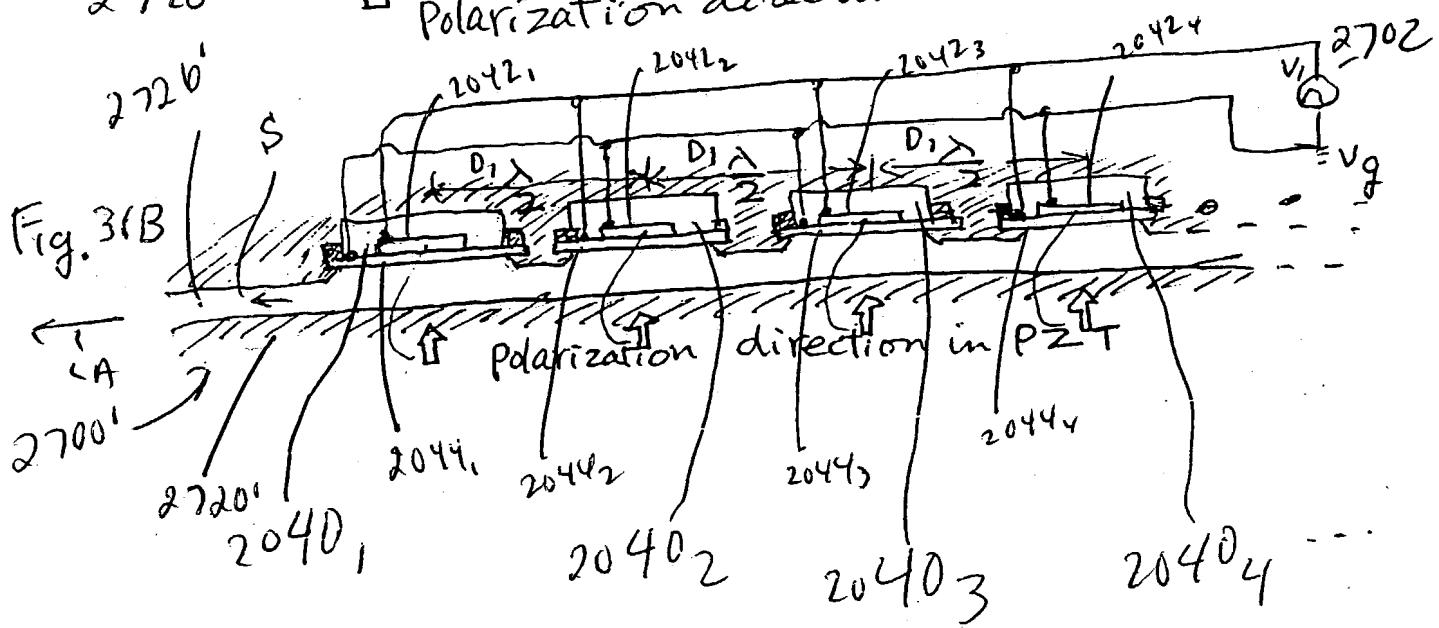
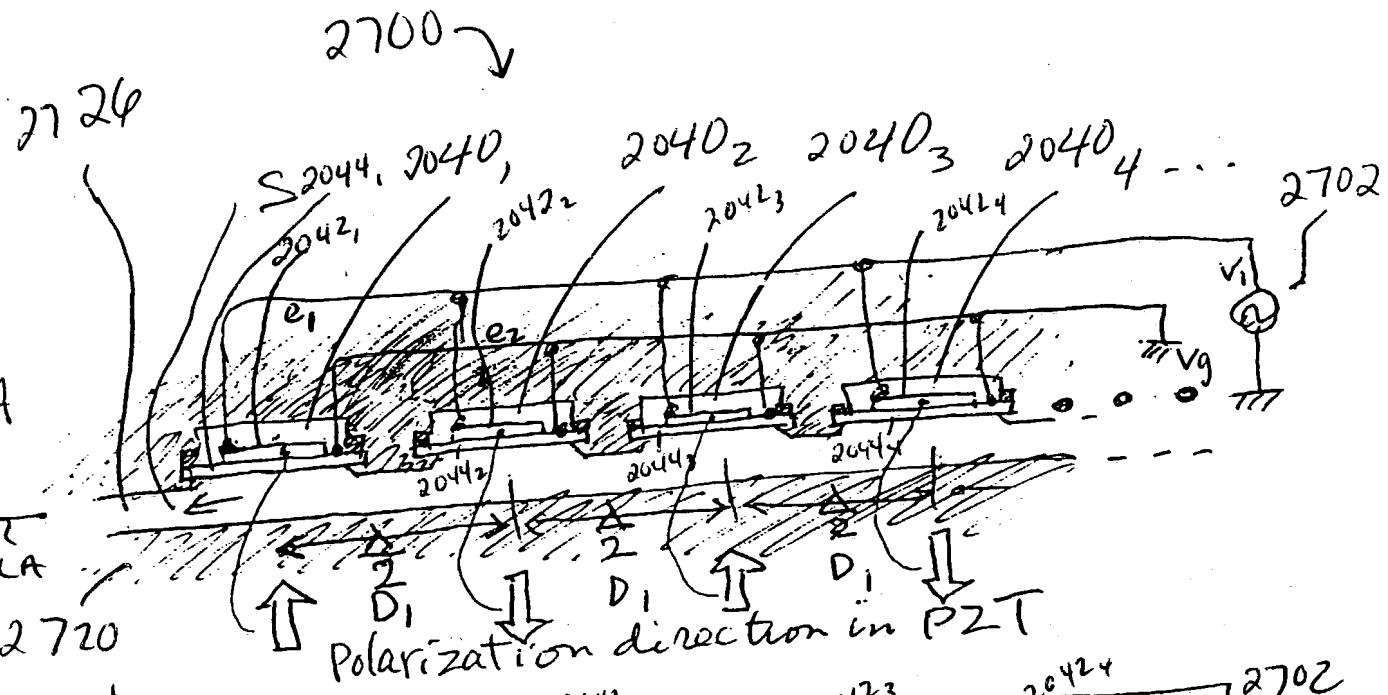


FIG. 28





F 1 G. 30.



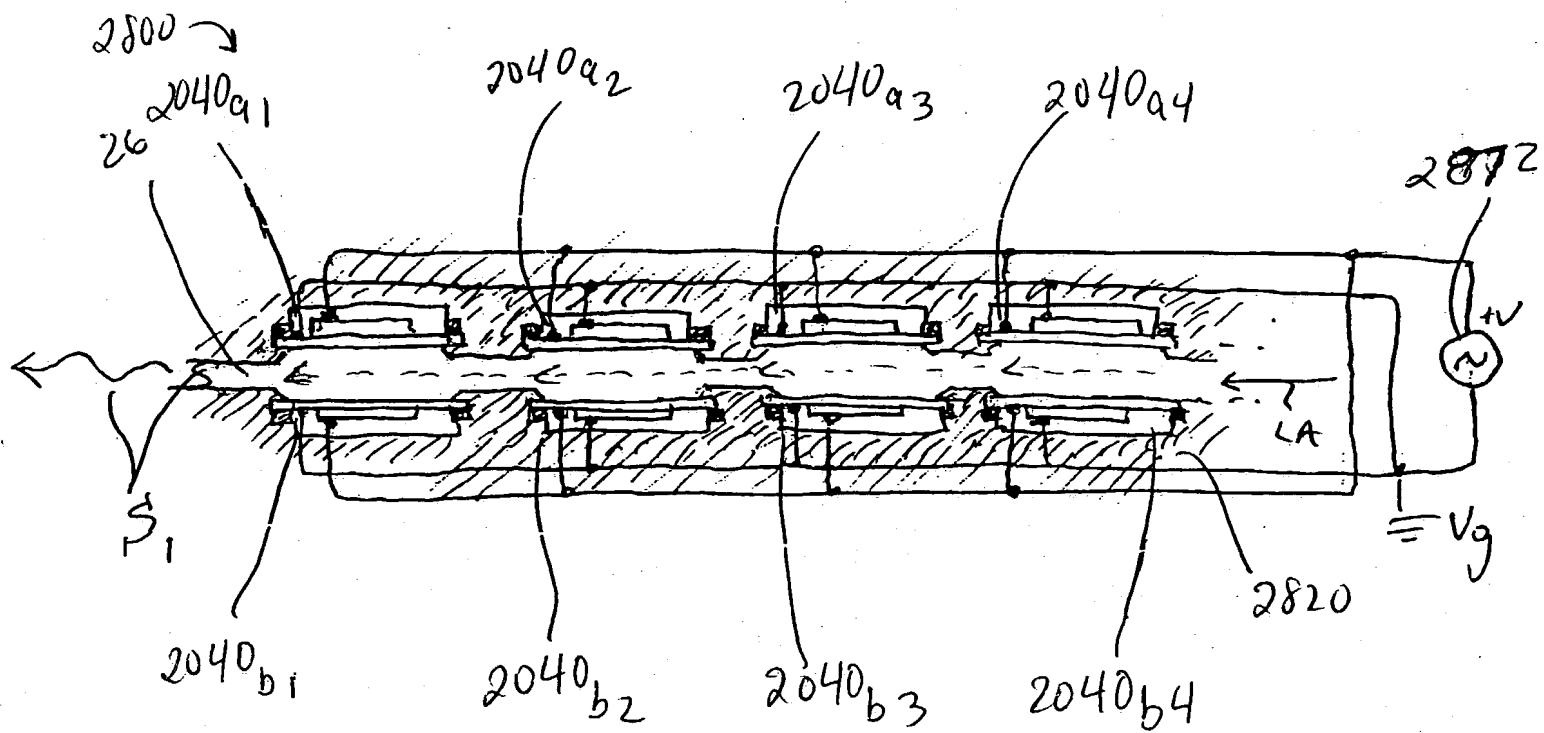


FIG. 32A

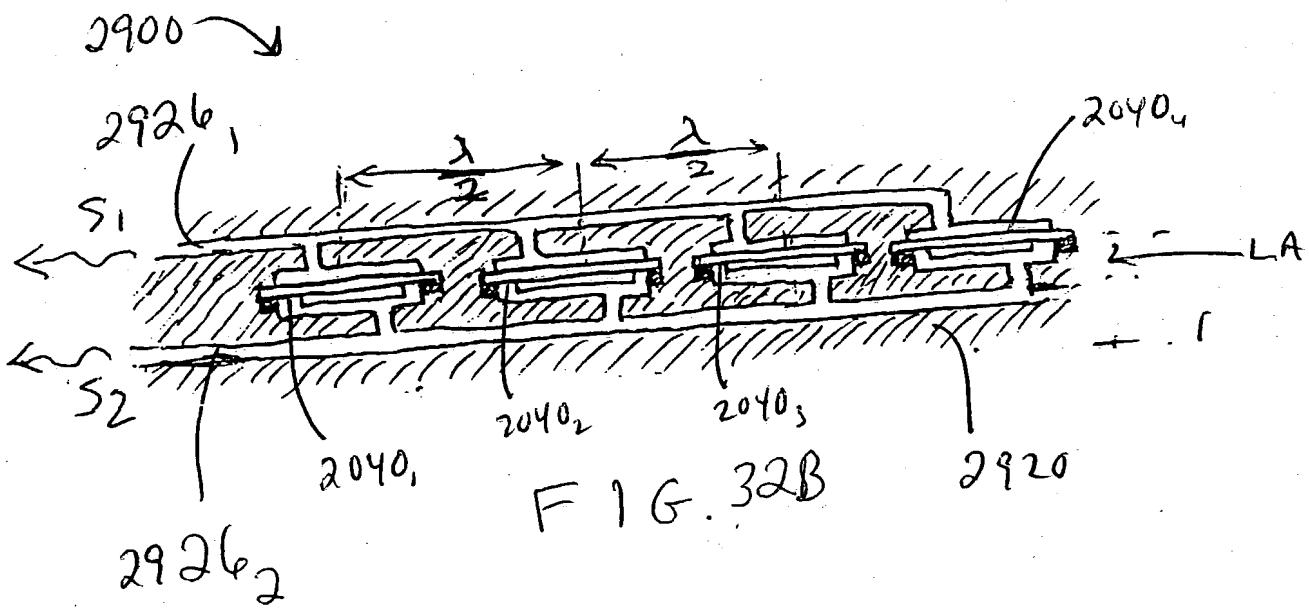


FIG. 32B

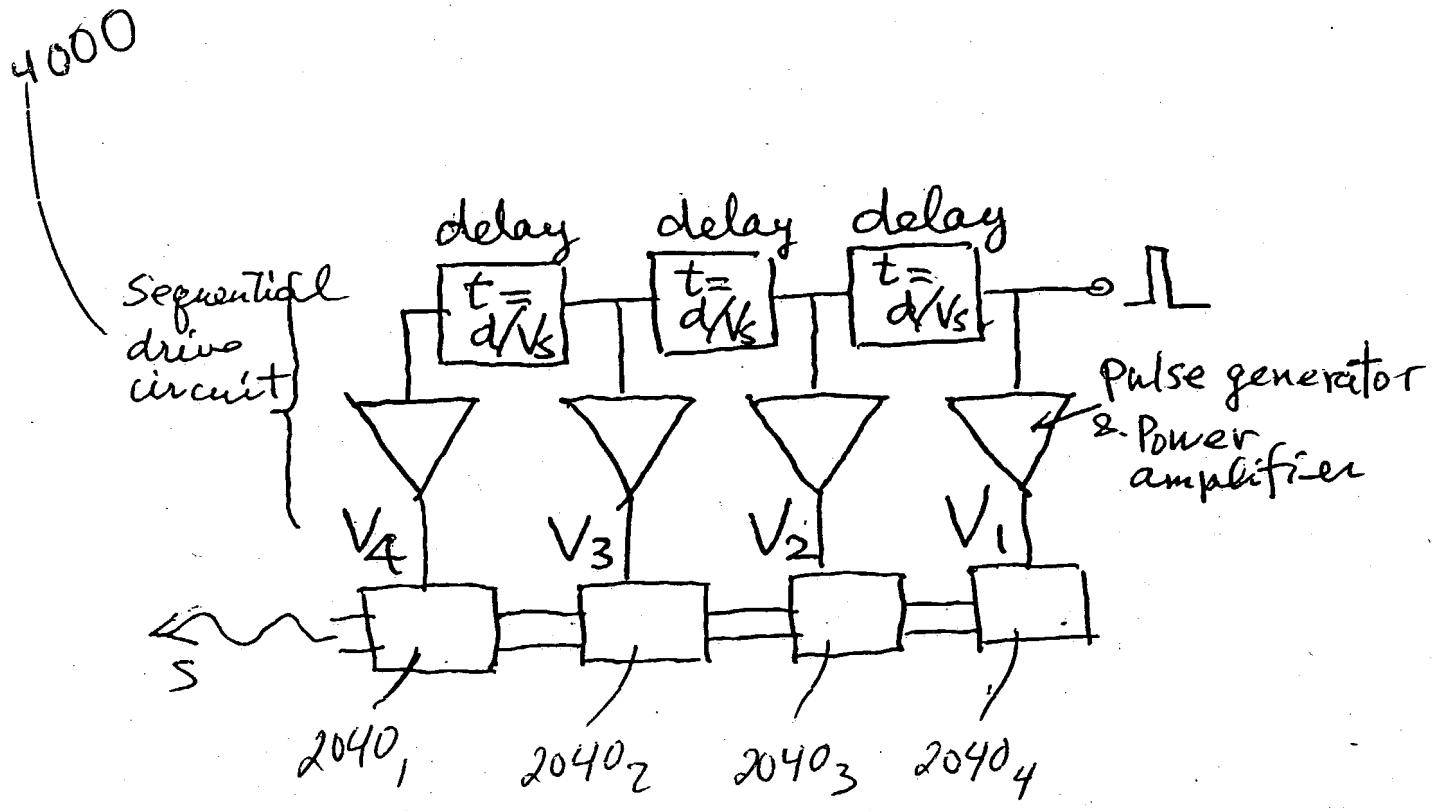


FIG. 33

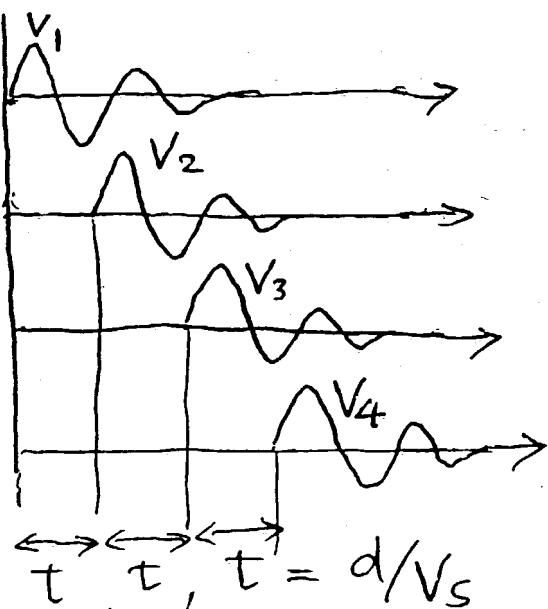


FIG. 34

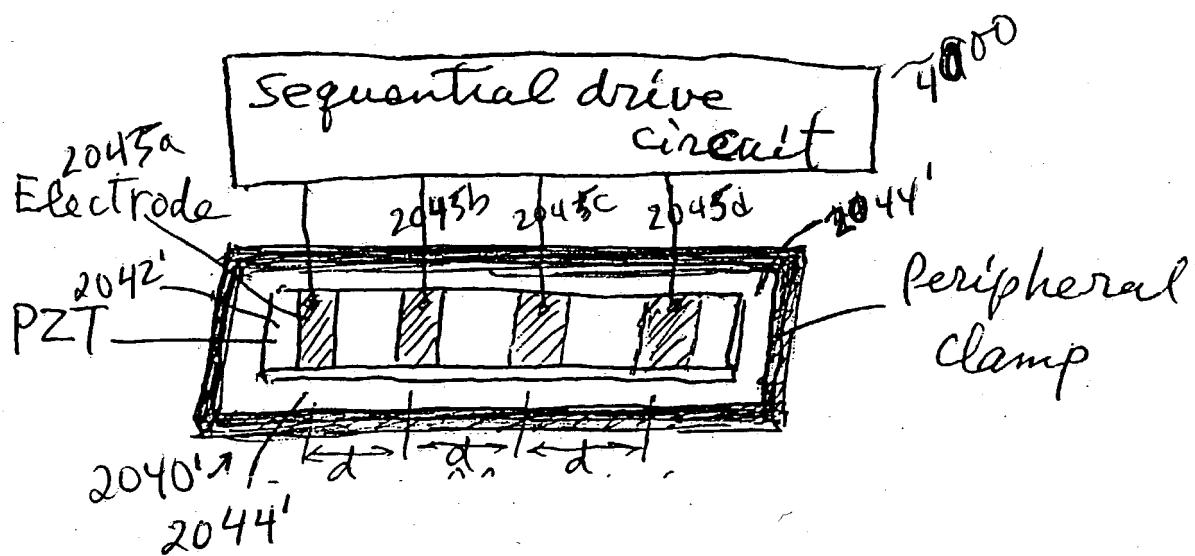


FIG. 35

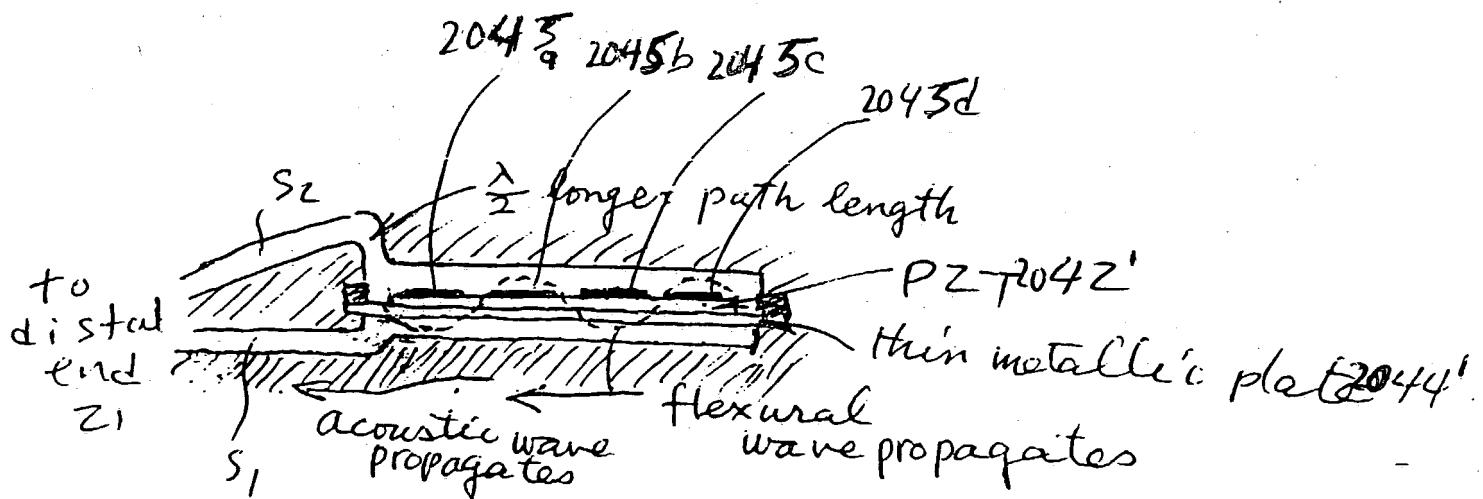


FIG. 36

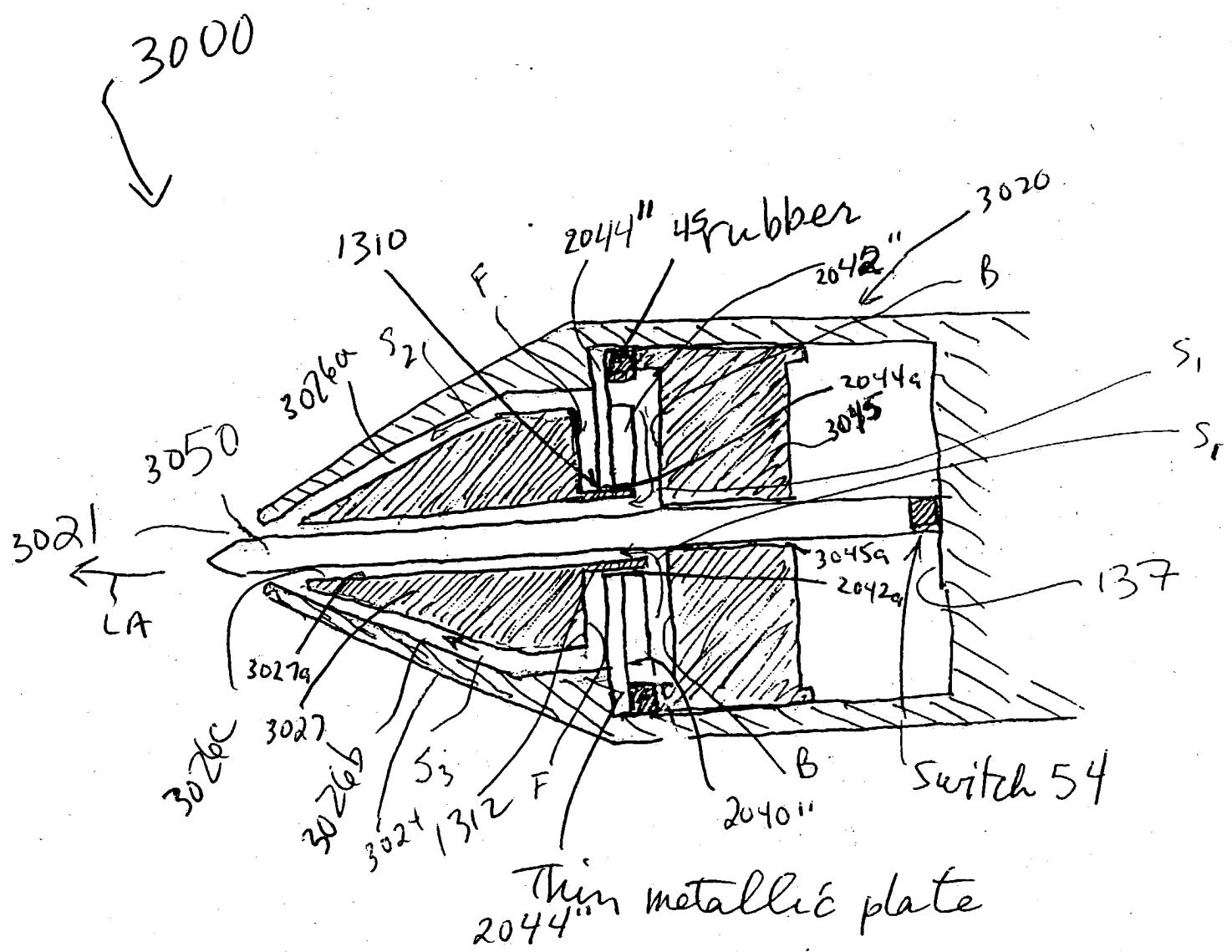


FIG. 37

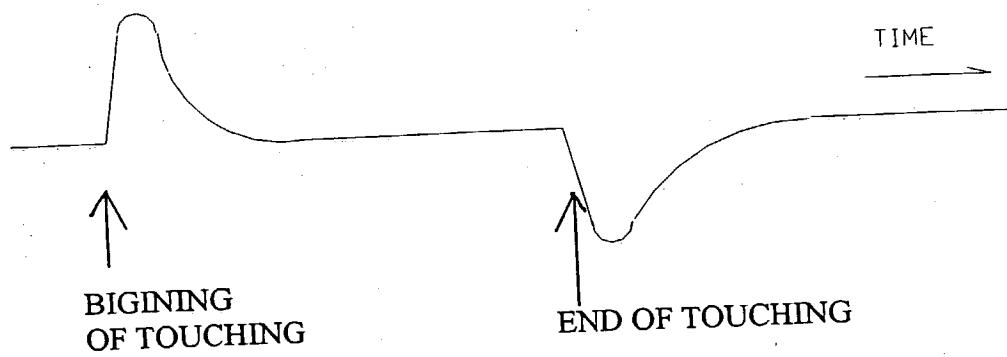
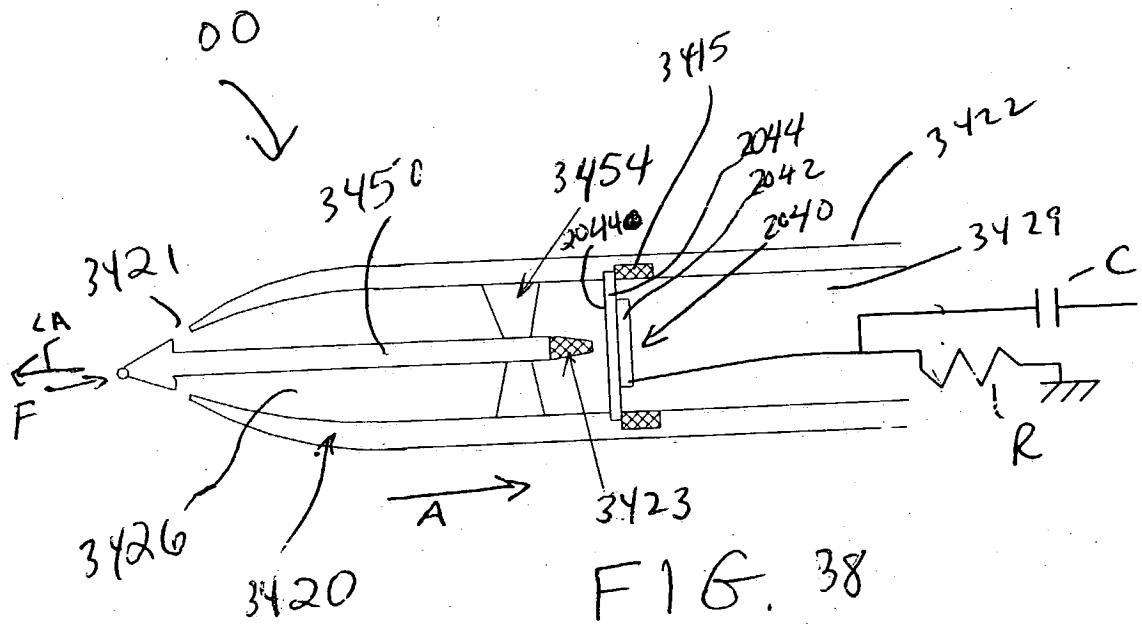


FIG. 39

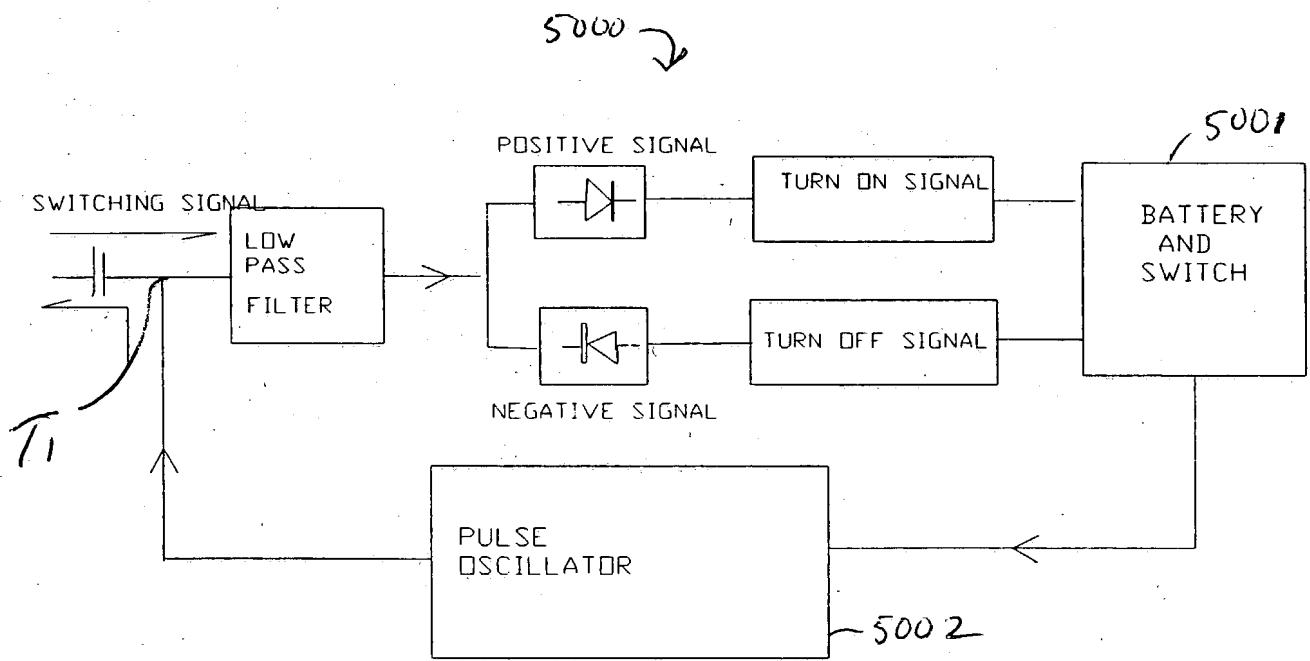


FIG. 40